



KONICA MINOLTA

## SERVICE MANUAL

FIELD SERVICE

# **magicolor 1680MF** **magicolor 1690MF**

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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, Konica Minolta Business Technologies, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.

Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT 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:

	<b>:Precaution when using the copier.</b>		<b>General precaution</b>		<b>Electric hazard</b>		<b>High temperature</b>
	<b>:Prohibition when using the copier.</b>		<b>General prohibition</b>		<b>Do not touch with wet hand</b>		<b>Do not disassemble</b>
	<b>:Direction when using the copier.</b>		<b>General instruction</b>		<b>Unplug</b>		<b>Ground/Earth</b>

## SAFETY WARNINGS

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

Konica Minolta 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.

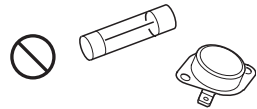
#### Prohibited Actions

##### DANGER

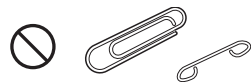
- Using any cables or power cord not specified by KMBT.



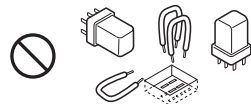
- Using any fuse or thermostat not specified by KMBT.  
Safety will not be assured, leading to a risk of fire and injury.



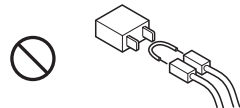
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



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



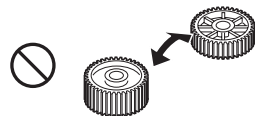
- Disabling safety functions (interlocks, safety circuits, etc.)  
Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT



- Using parts not specified by KMBT



## [2] POWER PLUG SELECTION

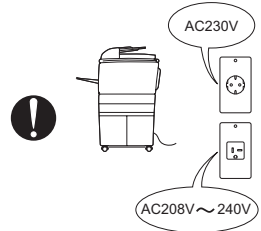
In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

### 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

Konica Minolta brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and 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.

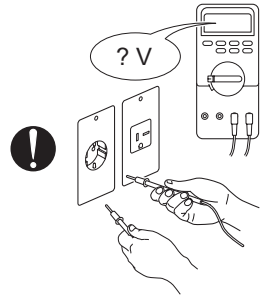
#### 1. Power Supply

#### 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, advise 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.



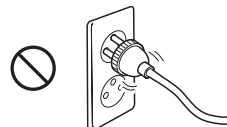
- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

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.



## Connection to Power Supply

### WARNING

- Check whether the product is grounded properly.

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



Connect power plug to grounded wall outlet.

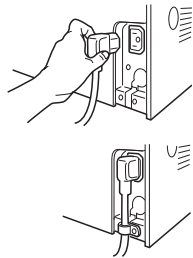
## Power Plug and Cord

### 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.

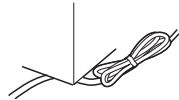
When securing measure is provided, secure the cord with the fixture properly.

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.

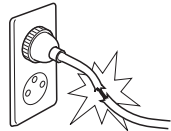
Overheating may occur there, leading to a risk of fire.



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

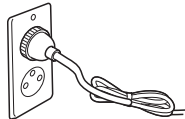
If the power plug, cord, or sheath is damaged, replace with a new power cord or cord set (with plug and connector on each end) specified by KMBT.

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.

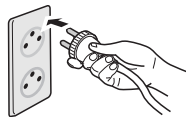


## Power Plug and Cord

### WARNING

- 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.



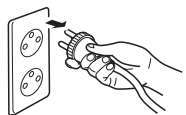
- Do not insert the power plug into the wall outlet with a wet hand.

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.

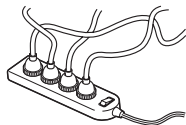


## Wiring

### 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.

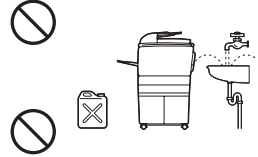
Do not use an extension cable reel with the cable taken up. Fire may result.



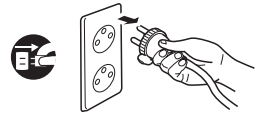
## 2. Installation Requirements

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

**Fixing** **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.

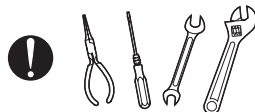


## 3. Servicing

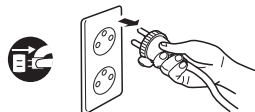
**Inspection before Servicing****⚠ CAUTION**

- 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.

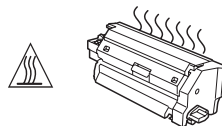
If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.



- 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.

**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.



## Safety Checkpoints

### **WARNING**

- When taking a report of problems from a user, check each part and repair properly.

A risk of product trouble, injury, and fire exists.



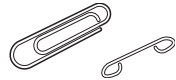
- Check the exterior and frame for edges, burrs, and other damages.

The user or CE may be injured.



- 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.



- Check wiring for squeezing and any other damage.

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



- 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.



- Check high-voltage cables and sheaths for any damage.

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



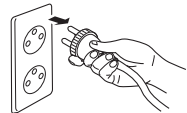
- Check electrode units such as a charging corona unit for deterioration and sign of leakage.

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



- 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.



## Safety Checkpoints



### WARNING

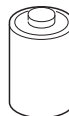
- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.

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



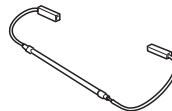
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

Improper replacement can cause explosion.



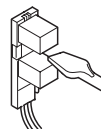
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

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.



× pcs?



## 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.



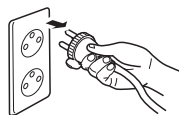
- Never throw the used cartridge and toner into fire.  
You may be burned due to dust explosion.



## Handling of Service Materials

### CAUTION

- Unplug the power cord from the wall outlet.  
Isopropyl alcohol and acetone 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. Fuse

**Fuse****CAUTION**

- **CAUTION**  
Double pole / neutral fusing
- **ATTENTION**  
Double pôle / Fusible sur le neutre

## 5. Used Batteries Precautions

**Handling of batteries****CAUTION**

- ALL Areas

**CAUTION**

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

- Germany

**VORSICHT!**

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

- France

**ATTENTION**

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.  
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.  
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

- Denmark

**ADVARSEL!**

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

- Finland, Sweden

**VAROITUS**

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

**VARNING**

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

- Norway

**ADVARSEL**

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

## [4] LASER SAFETY

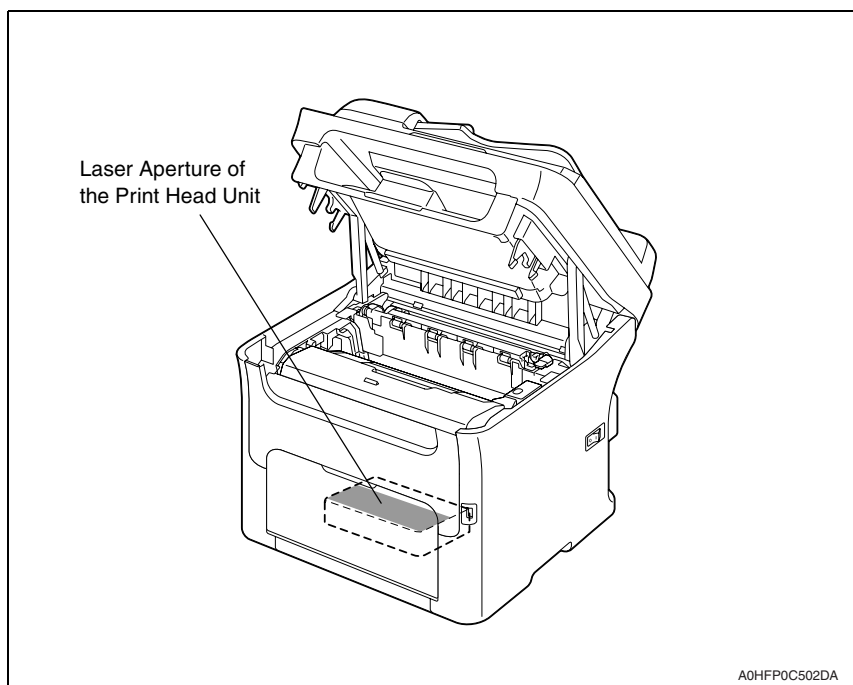
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

### 4.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	20 mW
Maximum average radiation power (*)	13.3 $\mu$ W
Wavelength	775 - 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	20 mW
Wavelength	775 - 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	20 mW
Wavelength	775 - 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	20 mW
bølgelængden	775 - 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	20 mW
aallonpituus	775 - 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.

halvledarlaser	
Den maximala effekten för laserdioden	20 mW
våglängden	775 - 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

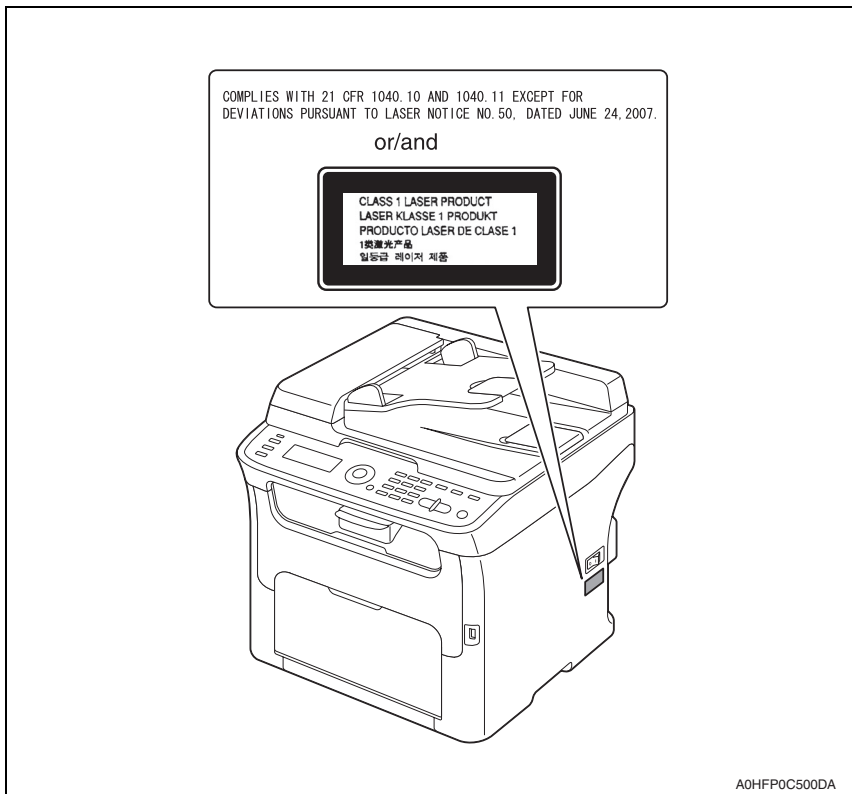
**ADVERSEL**

- 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 laserdioden	20 mW
bølgelengde	775 - 800 nm

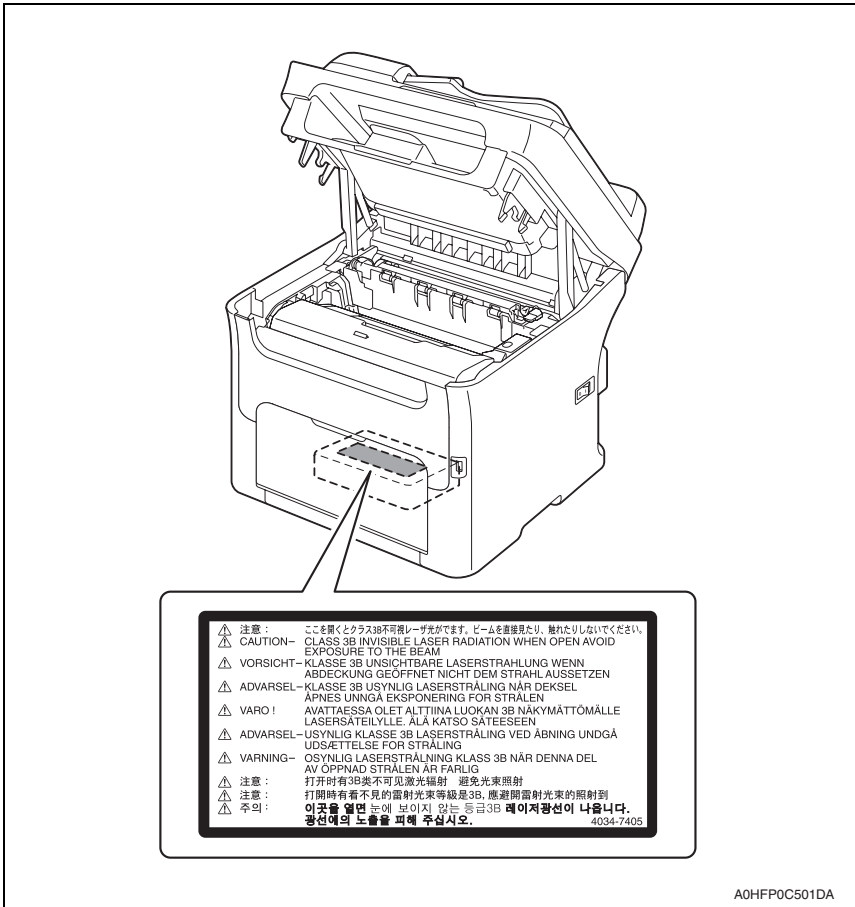
## 4.2 Laser Safety Label

- 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.

## **SAFETY INFORMATION**

### **IMPORTANT NOTICE**

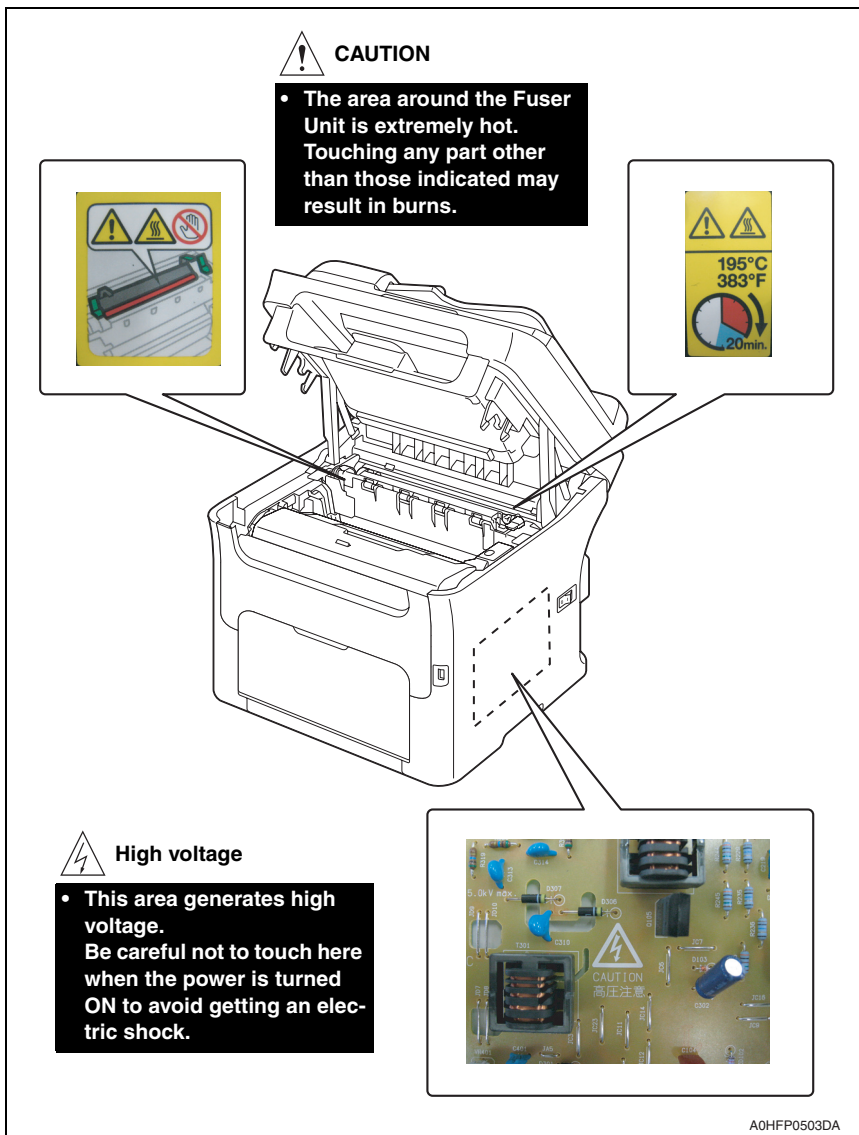
The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

This copier is certified as a "Class 1" laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside this copier is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

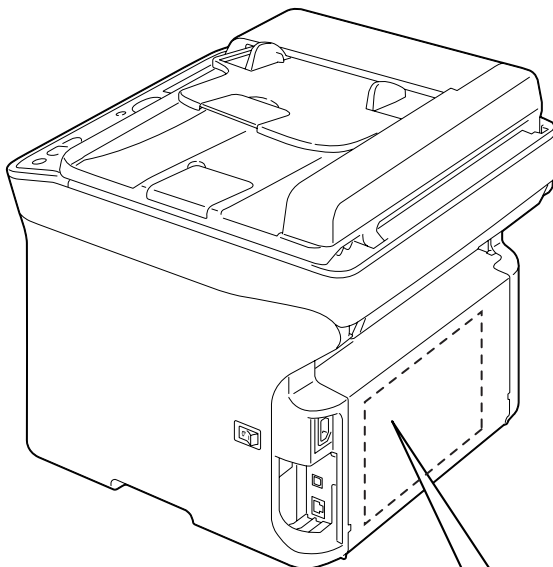
## INDICATION OF WARNING ON THE MACHINE

Caution labels shown below are attached in some areas on/in the machine.

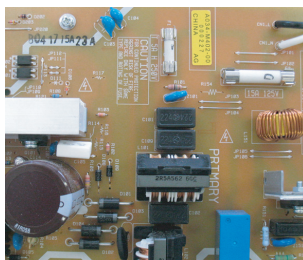
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.



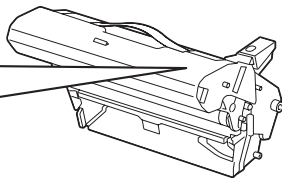
A0HFP0503DA

**High voltage**

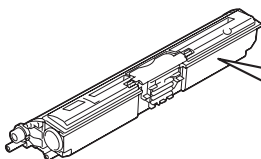
- **This area generates high voltage. Be careful not to touch here when the power is turned ON to avoid getting an electric shock.**



A0HFP0C504DA

**WARNING**

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

**WARNING**

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

A0HFP0505DA

**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 KMBT 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 KMBT.
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) magicolor 1680MF/magicolor 1690MF    Main body
- (2) Microsoft Windows NT 4.0:                    Windows NT 4.0 or Windows NT
- Microsoft Windows 2000:                    Windows 2000
- Microsoft Windows XP:                      Windows XP
- Microsoft Windows Vista:                   Windows Vista

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

Windows NT 4.0/2000  
Windows NT/2000/XP/Vista

## 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



KONICA MINOLTA

## SERVICE MANUAL

FIELD SERVICE

# **magicolor 1680MF** **magicolor 1690MF**





Main body

# 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.

2010/12	2.0		Error correction/Information addition
2008/11	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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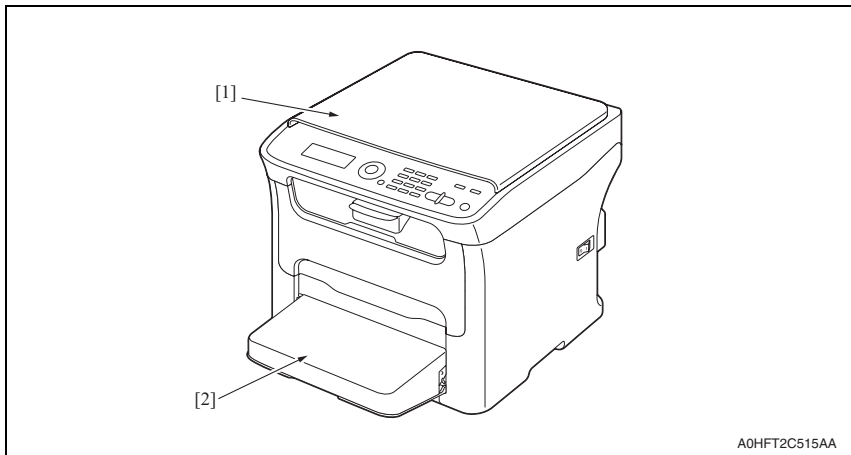
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# OUTLINE

## 1. System configuration

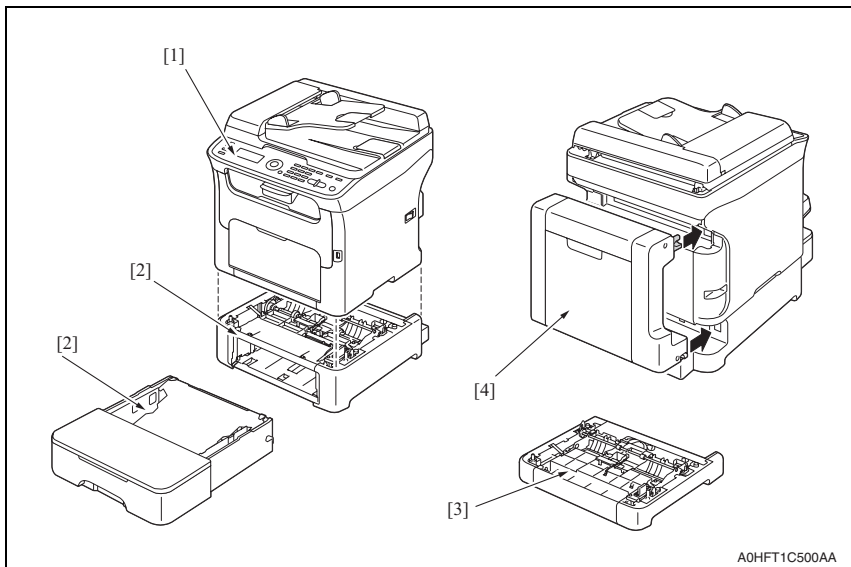
### A. magicolor 1680MF



[1] magicolor 1680MF

[2] Dust cover (Option)

### B. magicolor 1690MF



[1] magicolor 1690MF

[2] Lower Feeder Unit (Option)

[3] Duplex Option Attachment (Option)

[4] Duplex Option (Option)

2. Product specifications

A. Type

Type	Desktop full-color laser beam printer	
Printing system	Semiconductor laser and electrostatic image transfer to plain paper	
Exposure system	2 laser diodes and polygon mirror	
PC drum type	OPC (organic photo conductor)	
Photoconductor cleaning	Blade cleaning system	
Resolution	1200 x 600 dpi, 600 x 600 dpi	
Media feeding system	magicolor 1680MF	One-way system (Tray 1: 200 sheets)
	magicolor 1690MF	One-way system (Tray 1: 200 sheets) * Expandable to a two-way system by adding an optional Lower Feeder Unit.
Developing system	Single-element developing system	
Charging system	DC comb electrode scorotron system	
Image transfer system	Intermediate transfer belt system	
Media separating system	Curvature separation + Charge-neutralizing system	
Fusing system	Roller fusing	
Media exit system	Face down (Output tray capacity: 100 sheets)	

magicolor 1680MF  
magicolor 1690MF

OUTLINE

### B. Functions

Warm-up time	Average 30 seconds (time to return to Ready mode from Energy Save mode)	
Process speed	Plain paper	126.78 mm/second
	Thick stock	63.39 mm/second
First-Page-Out Time (A4/letter, Plain paper)	Full color	1-sided: 21 seconds
	Monochrome	1-sided: 12 seconds
First copy time (A4/Letter, Plain paper)	Full color	1-sided: 52 seconds (600 x 300 dpi)
	Monochrome	1-sided: 23 seconds (600 x 300 dpi)
Print speed (A4/Letter, Plain paper)	Full color	1-sided: 5 pages/minute
	Monochrome	1-sided: 20 pages/minute
Custom media sizes	Paper width: 92 to 216 mm (3.6" to 8.5")	
	Paper length: 195 to 356 mm (Plain paper)	
	184 to 297 mm (Thick paper)	
Media types	<ul style="list-style-type: none"> <li>• Plain paper (60 to 90 g/m<sup>2</sup> )</li> <li>• Thick stock 1 (91 to 163 g/m<sup>2</sup> )</li> <li>• Thick stock 2 (164 to 209 g/m<sup>2</sup>)</li> <li>• Postcards</li> <li>• Envelopes</li> <li>• Letterhead</li> <li>• Label stock</li> </ul>	
Tray capacities	Plain paper and letterhead	:200 sheets
	Thick stock, postcards, labels stock, and glossy stock	:50 sheets
	Envelopes	:10 sheets

Lower Feeder Unit: Only plain paper and recycled paper weighing 60 to 90 g/m<sup>2</sup> (16 to 24 lb) can be loaded.

Duplex Option: Only plain paper and recycled paper weighing 60 to 90 g/m<sup>2</sup> (16 to 24 lb) can be fed through the unit.

### C. Maintenance

**D. Machine specifications**

Power requirements	voltage:	AC 120 V ± 10 % AC 220 to 240 V ± 10%	
	Frequency:	60 Hz ± 3 Hz (for North america) 50/60 Hz ± 3 Hz (for Europe)	
Max power consumption	990 W or less (120 V) 1060 W or less (220 V to 240 V)		
Dimensions	magicolor 1680MF	405 mm (W) x 427 mm (D) x 376 mm (H)	
	magicolor 1690MF	405 mm (W) x 427 mm (D) x 432 mm (H)	
Weight	magicolor 1680MF	20.0 kg (including the consumables)	
	magicolor 1690MF	21.0 kg (including the consumables)	
Operating noise	During standby	magicolor 1680MF	38 dB (A)
		magicolor 1690MF	
	During printing	magicolor 1680MF	50 dB (A): Color
		magicolor 1690MF	49 dB (A): monochrome

**E. Operating environment**

Temperature	10 to 35 °C / 50 to 95 °F (with a fluctuation of 10 °C / 18 °F or less per hour)
Humidity	15% to 85% (with a fluctuation of 20% or less per hour)

**F. Controller****(1) magicolor 1680MF**

Type	Built-in type controller
Standard memory	64 MB
Interface	USB 2.0 compliant
Support	<ul style="list-style-type: none"> <li>Microsoft Windows Vista Home Basic/Home Premium/Ultimate/Business/Enterprise, Windows Vista Home Basic/Home Premium/ Ultimate/ Business/Enterprise x64 Edition, Windows XP Home Edition/ Professional (Service Pack 2 or later), Windows XP Professional x64 Edition, Windows Server 2003, Windows Server 2003 x64 Edition, Windows 2000 (Service Pack 4 or later)</li> <li>Mac OS X (10.2.8 or later; We recommend installing the latest patch)</li> </ul>

**(2) magicolor 1690MF**

Type	Built-in type controller
Standard memory	128MB
Interfaces	USB 2.0 (High Speed) compliant, 10Base-T/100Base-T Ethernet, Host USB (for scan to USB memory)
Support	<ul style="list-style-type: none"> <li>Microsoft Windows Vista Home Basic/Home Premium/Ultimate/Business/Enterprise, Windows Vista Home Basic/Home Premium/ Ultimate/ Business/Enterprise x64 Edition, Windows XP Home Edition/ Professional (Service Pack 2 or later), Windows XP Professional x64 Edition, Windows Server 2003, Windows Server 2003 x64 Edition, Windows 2000 (Service Pack 4 or later)</li> <li>Mac OS X (10.2.8 or later; We recommend installing the latest patch)</li> </ul>

**NOTE**

- These specifications are subject to change without notice.

# MAINTENANCE

## 3. Periodical check

### 3.1 Maintenance items

#### 3.1.1 Parts to be replaced by users (CRU)

	Class	Part to be replaced	Number of prints	Clean	Replace
⚠	Processing section	Standard in-box toner cartridge (C, M, Y)	500 (by ISO19798 chart)		●
⚠		Standard in-box toner cartridge (K)	1,000 (by ISO19798 chart)		●
⚠		Standard-capacity toner cartridge (C, M, Y)	1,500 (by ISO19798 chart)		●
⚠		High-capacity toner cartridge (C, M, Y, K)	2,500 (by ISO19798 chart)		●
		Imaging cartridge	Monochrome 45,000 (Continuous printing) *1		●
			Monochrome 10,000 (1P/J) *1		
			Full Color 11,250 (Continuous printing) *1		
			Full Color 7,500 (1P/J) *1		
		PH window	When a malfunction occurs	●	
	Fusing section	Fuser unit	50,000		●
	Tray 1 media feed section	Media feed roller	When malfunction occurs	●	
	Tray 2 media feed section	Media feed roller	When malfunction occurs	●	
	ADF document feed section	Media feed roller	When malfunction occurs	●	
	Duplex option transport section	Transport roller	When malfunction occurs	●	
		Media feed roller *2		●	

\*1: In case of single side printing for normal paper of A4/Letter size

\*2: Only when the duplex option attachment is installed.

## 3.2 Concept of parts life

	Description	Near life value	Life value	Max. life value
Toner cartridge	High-capacity toner cartridge (C, M, Y, K)	2,350 images	2,500 images	3,500 images *1
	Standard-capacity toner cartridge (C, M, Y)	1,350 images	1,500 images	2,100 images *1
	Standard in-box toner cartridge (K)	850 images	1,000 images	1,400 images *1
	Standard in-box toner cartridge (C, M, Y)	350 images	500 images	700 images *1
Imaging cartridge	The imaging cartridge drive time count is compared with the printed page count and whichever reaching its life value is detected.	—	13,500 images (Standard mode)	—
Waste toner bottle (integrated in I/C)	Detected with the waste toner near full sensor. A waste toner full condition is detected when 200 more images are produced after a waste toner near-full condition has been detected.	—	45,000 images (Monochrome continuous printing)	45,200 images (Monochrome continuous printing)
Fuser unit	The fuser unit drive time is counted based on the transport motor drive time. The consumption rates of the fuser unit drive time count and the printed page count are calculated and the life value is reached when the consumption rate, whichever is greater, reaches 100%.	—	50,000 prints	—
Transfer roller	The number of printed pages is counted.	—	50,000 prints	—

\*1: The machine prohibits the initiation of any new print cycle when the maximum life value is reached.

### A. Conditions for life specifications values (Standard mode)

- The life specification values represent the number of pages printed or figures equivalent to it when the given conditions (see the table given below) are met. They may be more or less, depending on the machine operating conditions of each individual user.

Item	Description
Job type	Monochrome: 3 consecutive pages (3 pages/job) Full Color: 2 consecutive pages (2 pages/job)
Media size	A4S or LetterS
Color ratio	Black to Color = 1 : 1
Original density	ISO chart C/W ratio = 5% each color

### 3.3 Maintenance Procedure (periodical check parts)

#### 3.3.1 Toner cartridge (C/M/Y/K)



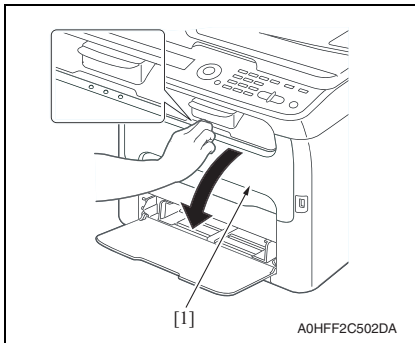
##### A. Periodically replaced parts/cycle

- Standard in-box toner cartridge (C, M, Y): Every 500 images
- Standard in-box toner cartridge (K): Every 1,000 images
- Standard-capacity toner cartridge (C,M,Y): Every 1,500 images
- High-capacity toner cartridge (C,M,Y,K): Every 2,500 images

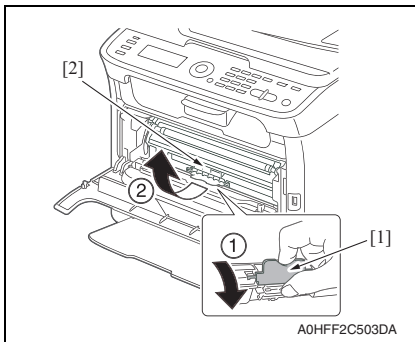
##### B. Removal procedure

1. Check the color of the toner cartridge to be replaced on the control panel.
2. Select [PRINTER MODE] - [T/C CHANGE] - [REPLACE MODE] from the menu and select the toner cartridge of the specific color of toner to be replaced.

See P.74



3. Open the front cover [1] and make sure that the specific toner cartridge to be replaced is in the front.



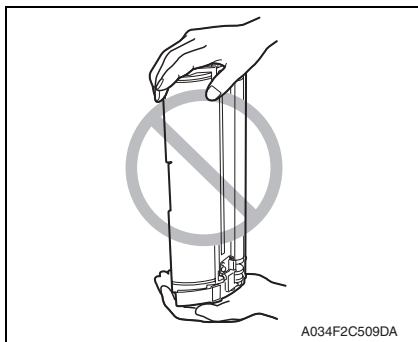
4. Hold onto the handle [1] of the toner cartridge, pull it and remove the toner cartridge [2].

##### NOTE

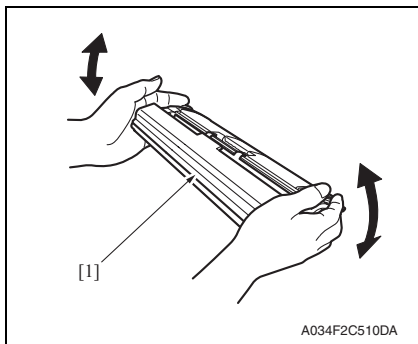
- When all toner cartridges need to be removed and replaced manually, select [PRINTER MODE] - [T/C CHANGE] - [EJECT MODE].

See P.75

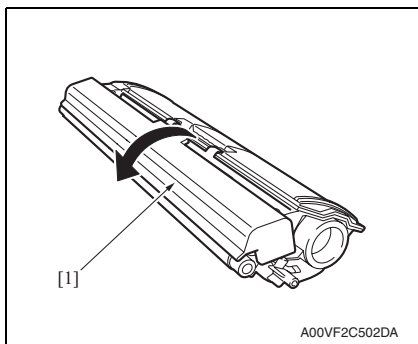


**C. Reinstallation procedure****NOTE**

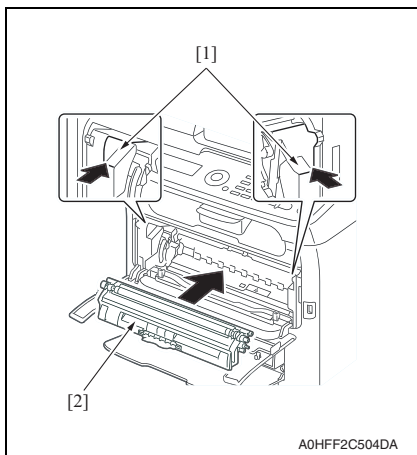
Do not let the toner cartridge stand upright or keep it in that upright position.



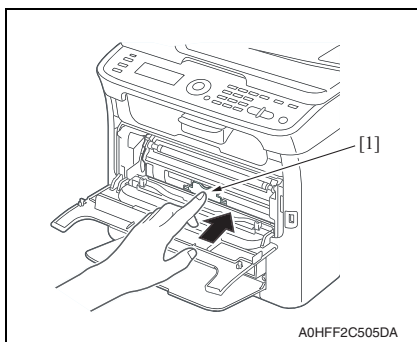
1. Shake the toner cartridge [1] a few times to distribute the toner.



2. Remove the protective cover [1].



3. Aligning the shaft [1] on both sides of the toner cartridge with the rails in the machine, install the toner cartridge [2].



4. Press in the toner cartridge until [1] it locks into place.

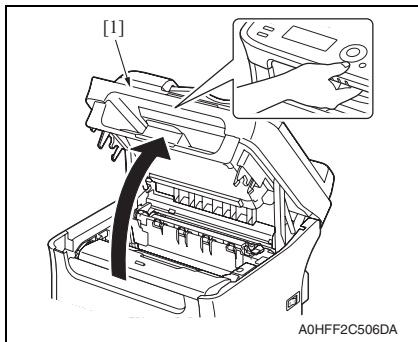
5. Close the front cover.
6. Press the Clear key.

### 3.3.2 Imaging cartridge

#### A. Periodically replaced parts/cycle

- Imaging cartridge (Monochrome continuous printing): Every 45,000 images
- Imaging cartridge (Monochrome 1P/J): Every 10,000 images
- Imaging cartridge (Full color continuous printing): Every 11,250 images
- Imaging cartridge (Full color 1P/J): Every 7,500 images

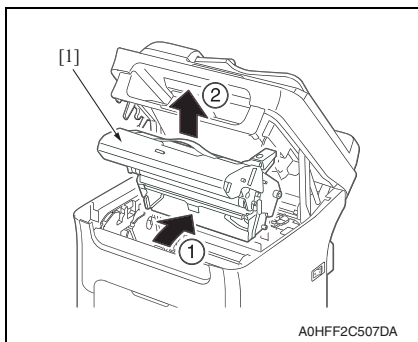
#### B. Replaced procedure



1. Open the top cover [1].

#### NOTE

- The left picture shows **magicolor 1690MF**.

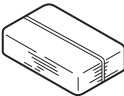



2. Hold onto the handle [1] of the imaging cartridge [2], pull it up slowly to remove the imaging cartridge as shown in the picture.

3. To reinstall, reverse the order of removal.

4. Service tool

4.1 Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad	 A02EF2C526DA	000V-18-1	10pcs/1pack
Isopropyl alcohol	 A00KF2C506DA	000V-19-0	

magicolor 1680MF  
magicolor 1690MF

MAINTENANCE

## 5. Remote Setup Utility (only magicolor 1690MF)

### 5.1 About RSU

- RSU software (Remote Setup Utility) provides utility setting and also service setting with ease through the intermediary of PC.
- The PC is connected to user machine via the phone line or standard USB interface port.
- Using the RSU software allows checking the user machine conditions from a distance place.

### 5.2 Outline

#### 5.2.1 Corresponding OS

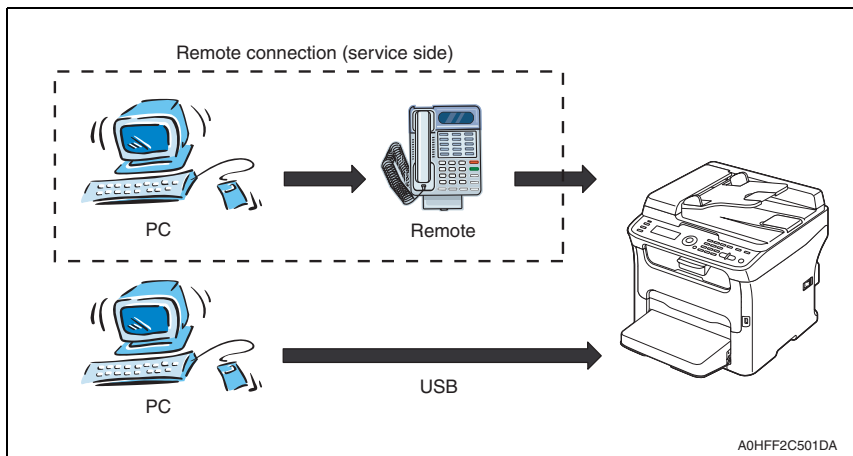
- Windows 2000, Windows XP, Windows Server 2003, Windows Vista.

#### 5.2.2 PC environments

- Modem built-in PC or the PC on which external modem is connected where communication is possible using modem.

### 5.3 Connection methods

- The connection methods include the following two ones:



#### 5.3.1 Remote connection (Phone line connection)

- Connecting to the phone line where the PC is connected to user machine via the modem and switching device allows user machine conditions to be checked from a distant place.

#### NOTE

- When the phone line connection is to be made, set [ADMIN. MANAGEMENT] - [REMOTE MONITOR] to [ON].  
See P.93
- RSU does not allow FAX communication. It should be notified to the user that FAX transmission, and the operation and setting of other user machines are not allowed during use of RSU.
- You should not carry out local connection through other ports during remote connection with the PC, which is being currently used.

### 5.3.2 Local connection (USB connection)

- Local connection allows the user machine conditions to be checked through connecting to the user machine directly via the USB port.

#### NOTE

- You should install the TWAIN driver before performing local connection.**

## 5.4 Setup

### 5.4.1 Setup of PC

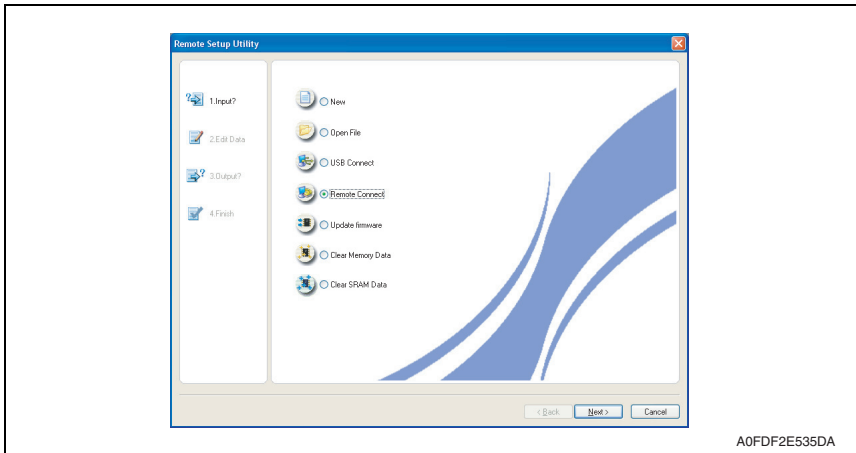
#### (1) Installing the RSU software

- You should download the RSU software beforehand into the computer where RSU is running.
- Open the RSU software folder, which was downloaded before.
  - Double-click [RSU V0xx.exe].

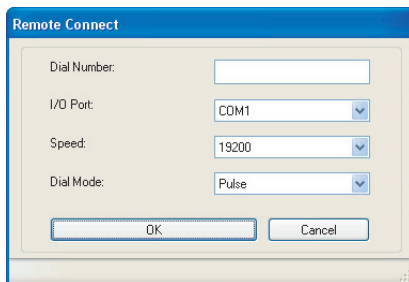
### 5.4.2 Connection and access of user machine

#### (1) Connection through phone line (remote connection)

- Verify that user machine can run fax communication (communication standby status)
- Connect the PC modem with the phone line.
- Boot the RSU software in PC.
- Select the [Remote Connect] from the menu.
- Click [Next].



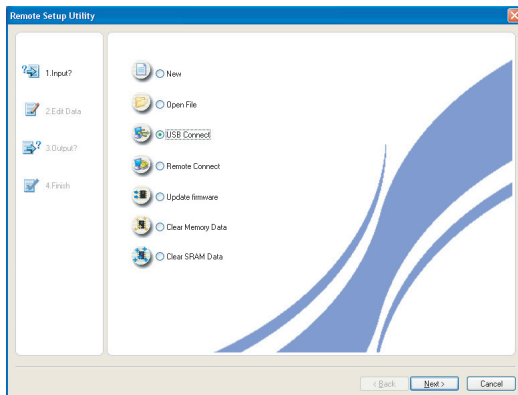
6. Enter the telephone number of the destination party.
7. Click [OK].



A0FDF2E541DA

## (2) Local connect (USB connect)

1. You should install TWAIN driver beforehand.
2. Connect the PC with user machine.
3. Boot the RSU software in PC.
4. Select the [USB Connect] from the menu.
5. Click [Next].



A0FDF2E536DA

6. The message [ADMINISTERED BY PC PLEASE WAIT!] appears on the machine screen.

ADMINISTERED BY PC  
PLEASE WAIT!

A0FDF2E537DA

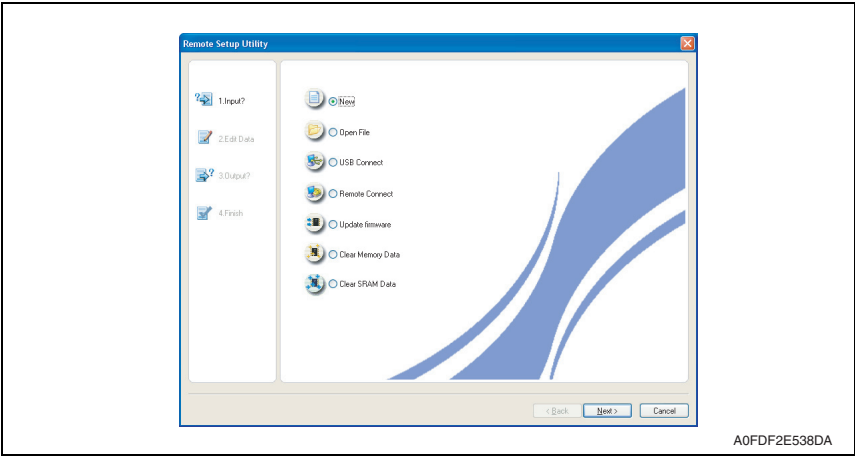
5.5 Operation

5.5.1 Job list

Setting	Description	Refer
New	Create a new dial setting.	P.15
Open File	Read the setting information previously saved.	P.18
USB Connect	Connect machine by USB.	P.13
Remote Connect	Connect machine by Remote.	
Update Firmware	Update firmware to machine.	P.19
Clear Memory Data	Clear all the contents of a memory.	P.20
Clear SRAM Data	Clear all image memory.	P.21

5.5.2 New (Dial setting)

1. Select the [New] from the menu.
2. Click [Next].

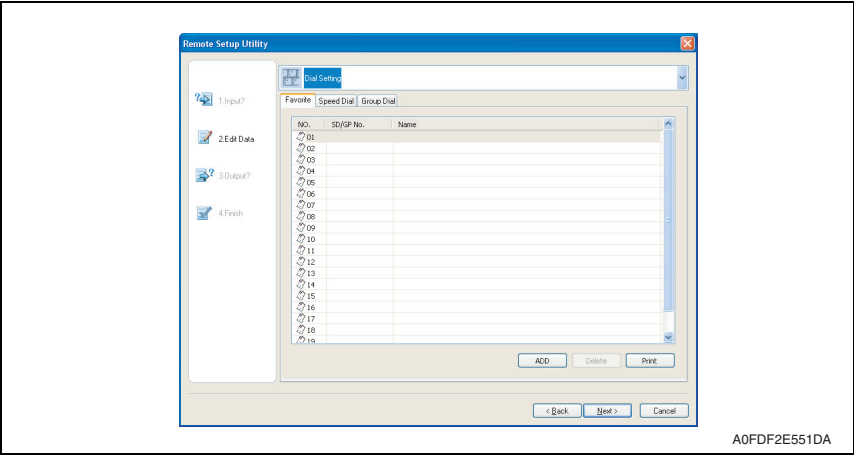


(1) Favorite

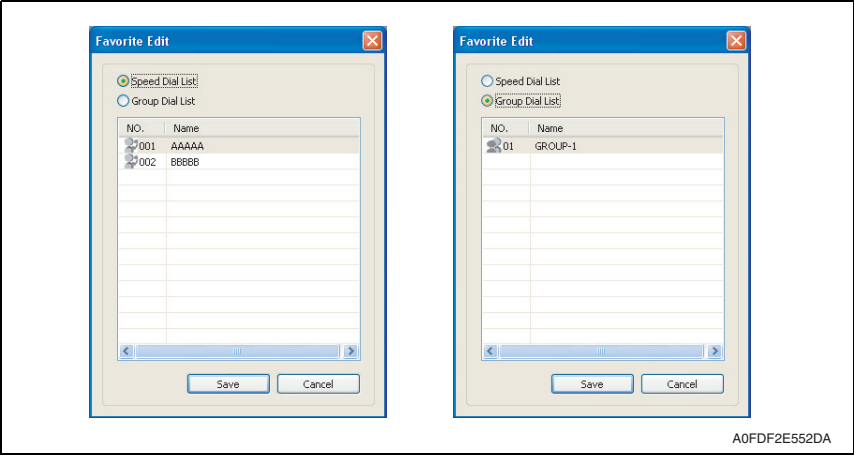
NOTE

- Before registering destinations in the favorite list, register them as [Speed Dial] or [Group Dial] destinations.

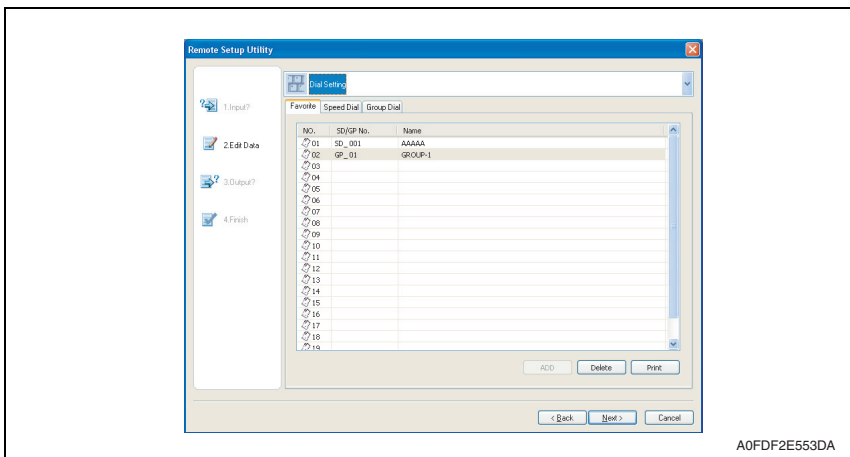
1. Select the [Favorite] tab and double-click the “Favorite list” to be set.



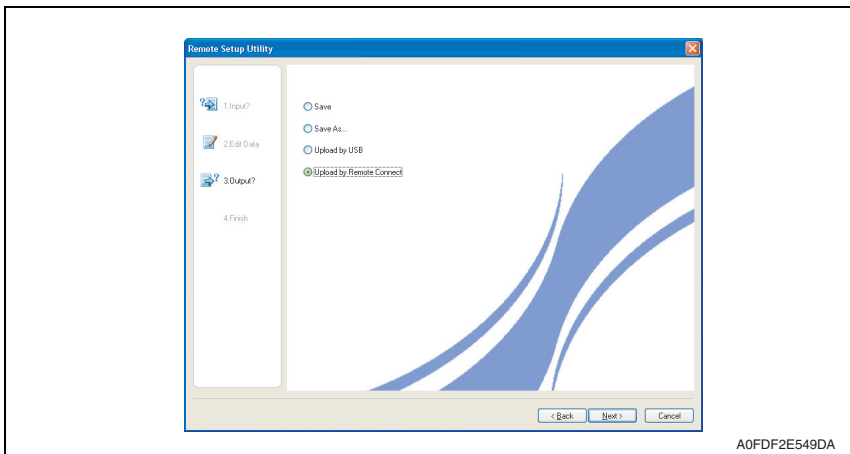
2. Select either “Speed Dial List” or “Group Dial List” and click [Save].



- To delete a Favorite list  
Select the "Favorite list" to be deleted and click [Delete].
  - To print a Favorite list  
Click [Print].
3. Click [Next].

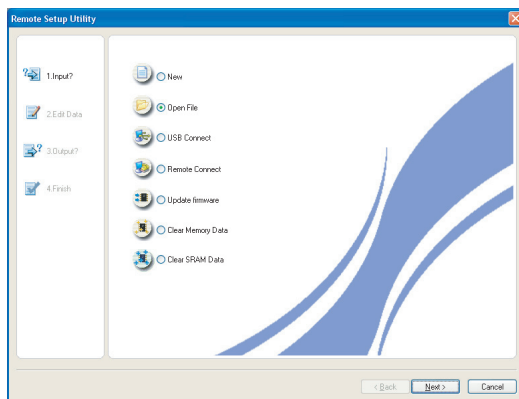


4. Select [Upload by USB] or [Upload by Remote Connect] according to the connection with the user machine.
5. Click [Next].



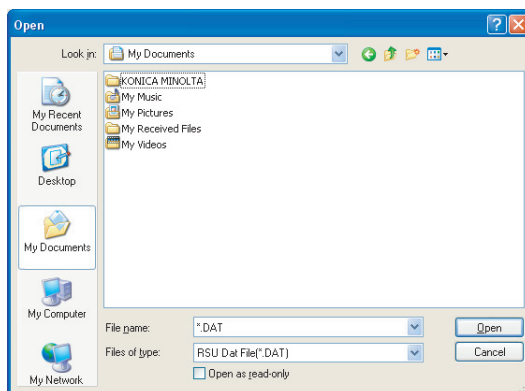
### 5.5.3 Open File

1. Select the [Open File] from the menu.
2. Click [Next].



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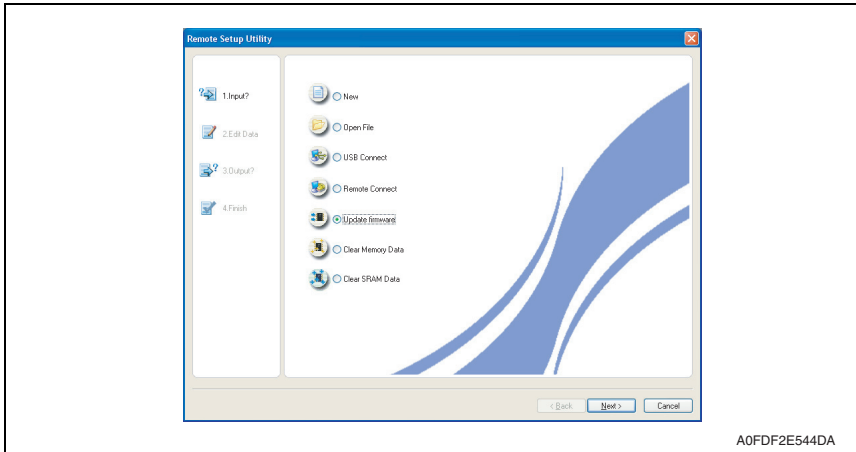
3. Select open KONICA MINOLTA magicolor 1690MF RSU format file (\*.DAT).



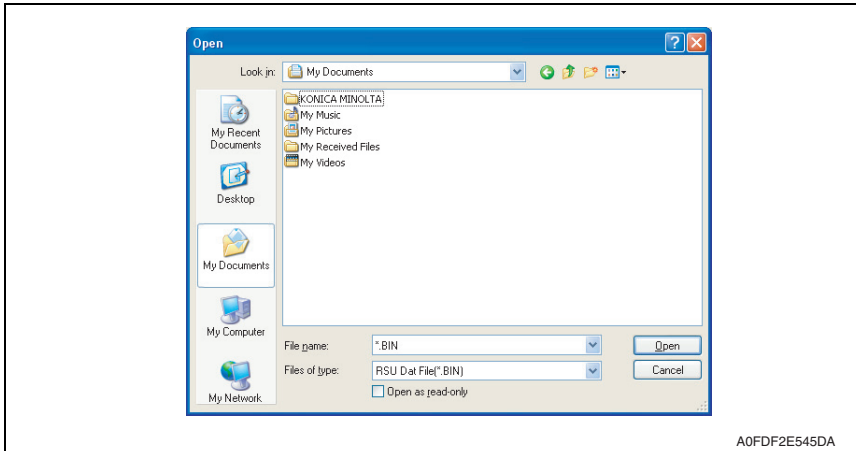
A0FDF2E543DA

### 5.5.4 Update Firmware

1. Select the [Update Firmware] from the menu.
2. Click [Next].

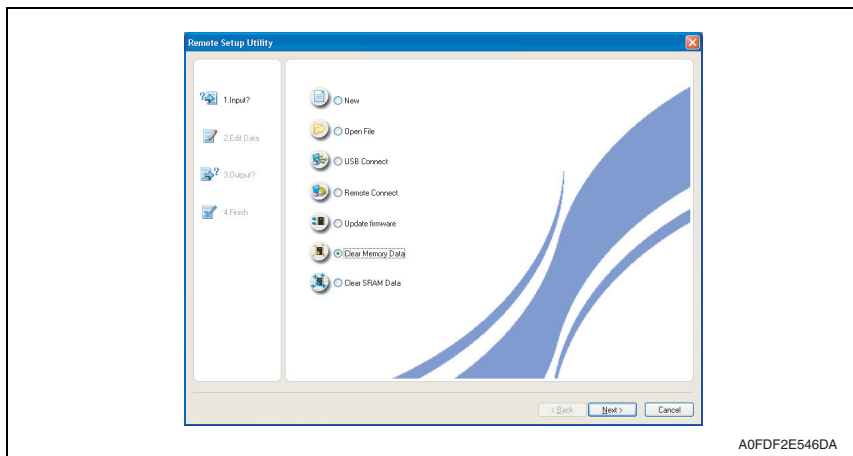


3. Select open KONICA MINOLTA magicolor 1690MF RSU format file (\*.BIN).

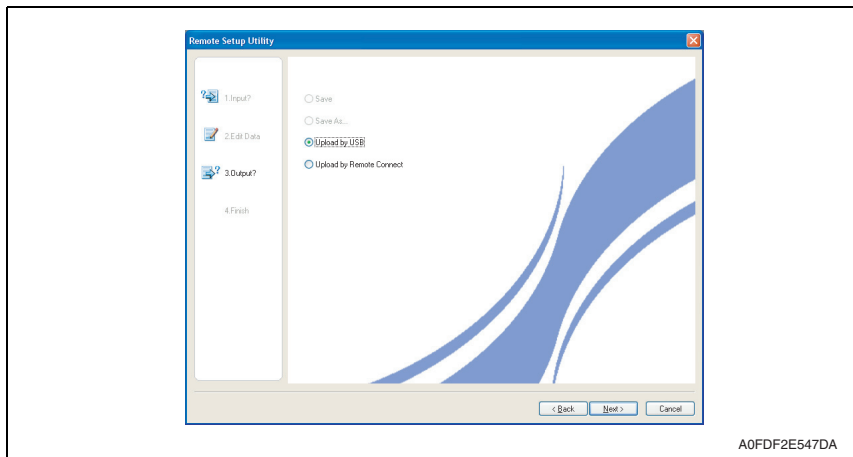


### 5.5.5 Clear Memory Data

1. Select the [Clear Memory Data] from the menu.
2. Click [Next].

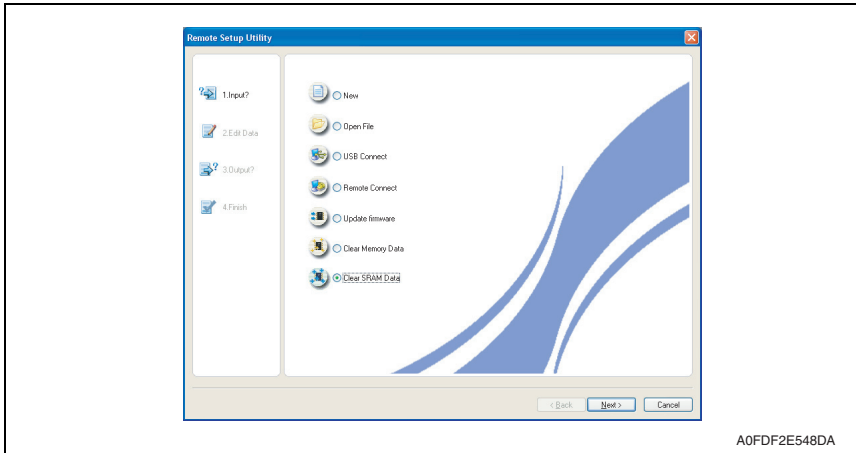


3. Select [Upload by USB] or [Upload by Remote Connect] according to the connection with the user machine.
4. Click [Next].

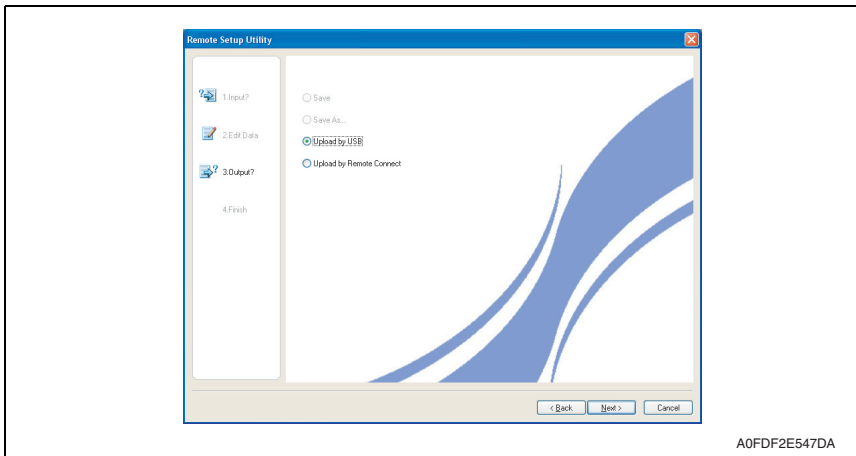


### 5.5.6 Clear SRAM Data

1. Select the [Clear SRAM Data] from the menu.
2. Click [Next].

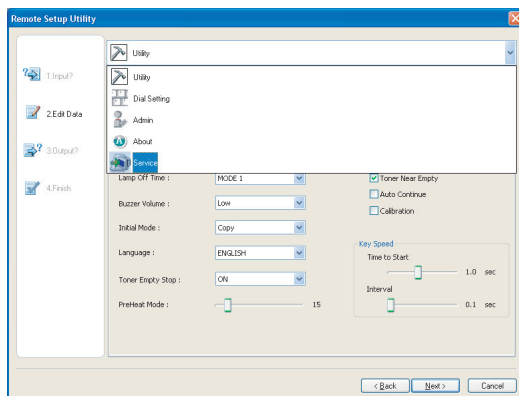


3. Select [Upload by USB] or [Upload by Remote Connect] according to the connection with the user machine.
4. Click [Next].



## 5.6 Function setting

1. Select the function.



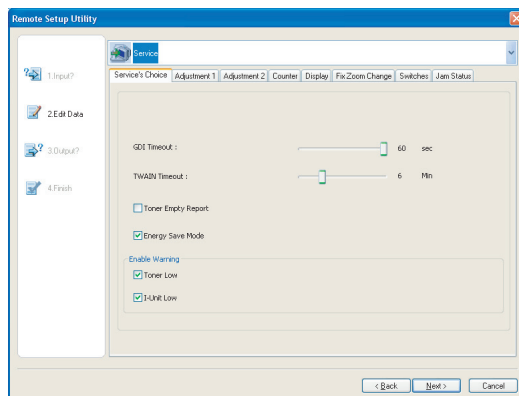
A0FDF2E539DA

### NOTE

- For details of each menu, see “Adjustment/Setting” and make the settings as necessary.

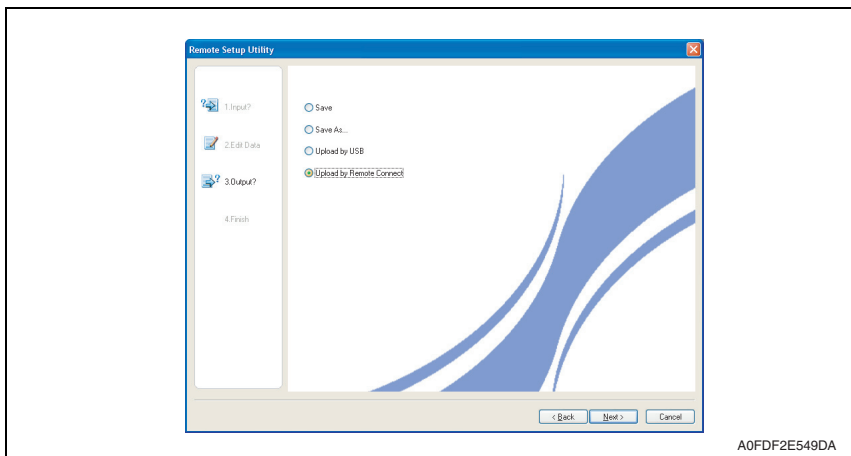
See P.85

2. Click [Next].

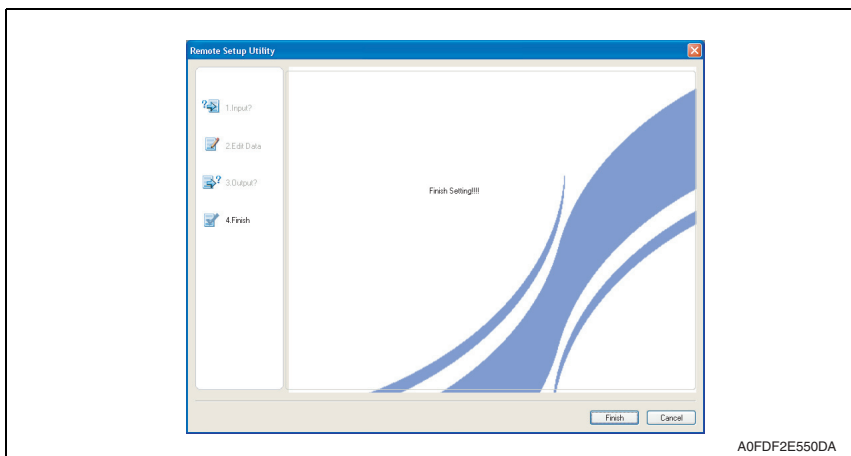


A0FDF2E540DA

3. Select [Upload by USB] or [Upload by Remote Connect] according to the connection with the user machine.
4. Click [Next].



5. This completes the setting change procedure for the user machine.



## 5.7 Troubleshooting

### 5.7.1 Error message list

Error Message list	Causes
File format is error! Please select valid format !	<ul style="list-style-type: none"> <li>The format of file name list is incorrect.</li> </ul>
Error opening USB Port !	<ul style="list-style-type: none"> <li>The USB port, which was specified, cannot be used for the computer that is in use.</li> </ul>
Machine busy	<ul style="list-style-type: none"> <li>Since user machine is in use, it does not enable connection.</li> </ul>
Machine timeout	<ul style="list-style-type: none"> <li>Timeout occurs during connection with user machine.</li> </ul>
Connect error ! Change to off-line edit mode.	<ul style="list-style-type: none"> <li>Connection is not established because the USB cable is disconnected during USB connection or the user machine is turned OFF.</li> </ul>
Please input [Dial Number] !	<ul style="list-style-type: none"> <li>No number is entered into the phone number list.</li> </ul>
Connect Fail !	<ul style="list-style-type: none"> <li>Remote connection has been failed.</li> </ul>
" " is not a valid integer value !	<ul style="list-style-type: none"> <li>The characters other than numeric value are entered.Or nothing is entered as being blank.</li> </ul>
Invalid password : must be within 0000 to 9999 !	<ul style="list-style-type: none"> <li>The password entered is not correct.</li> </ul>
Invalid password : must be within 000000 to 999999 !	
Phone number must be specified !	<ul style="list-style-type: none"> <li>Telephone number must be specified.</li> </ul>
E-Mail address must be specified !	<ul style="list-style-type: none"> <li>Nothing is entered in E-mail address.</li> </ul>
E-Mail address is invalid !	<ul style="list-style-type: none"> <li>E-mail address is incorrect.</li> </ul>
Password is not correct !	<ul style="list-style-type: none"> <li>Since password is incorrect in "Administrator" of "Utility Setting", it does not enable connection.</li> </ul>
Group name Required !	<ul style="list-style-type: none"> <li>Nothing is entered into group name list.</li> </ul>
Data List is empty !	<ul style="list-style-type: none"> <li>There is no group location list when registering the group.</li> </ul>
THE PARTY IS FULL	<ul style="list-style-type: none"> <li>When trying to register destinations more than 50.</li> </ul>

## 6. Firmware upgrade

### 6.1 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 Firmware Version.**

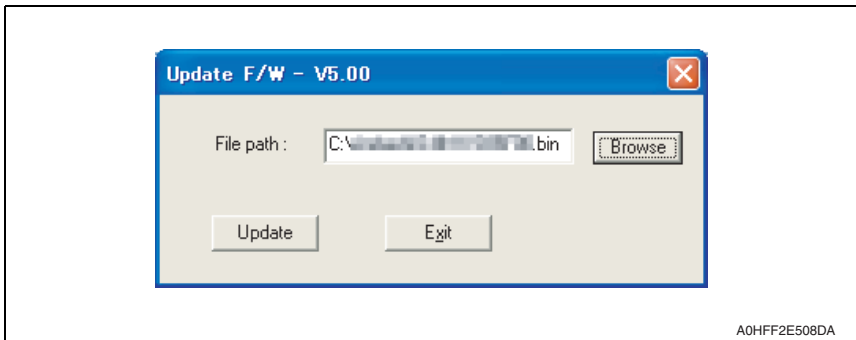
See P.80

### 6.2 Upgrading procedure

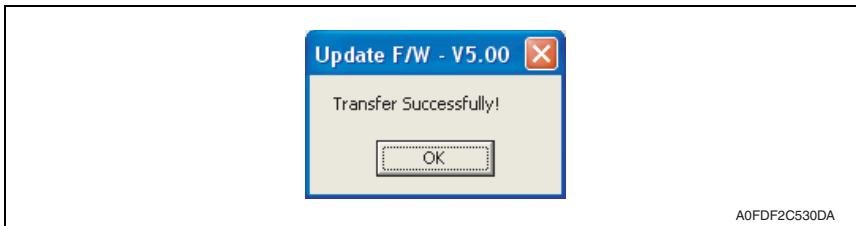


#### 6.2.1 Engine firmware upgrading

1. Connect the machine and PC using the USB cable.
2. Copy the firmware data and upgrading program in any arbitrary directory of the PC.
3. Double-click "UpdateFW.exe".
4. Click [Browse] and select File path, "XXXXX.bin".
5. Click [Update].



6. Firmware updating starts.
7. When [Transfer Successfully!] message appears on the screen, click [OK] to close the execution tool.



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

FIRMWARE UPDATE  
FIRMWARE UPDATE OK  
MACHINE POWER OFF/ON

A0FDF3C531DA

9. Print [CONFIGURATION PAGE] to confirm the Firmware Version.  
[See P.80](#)

### 6.2.2 Controller firmware upgrading



1. Connect the machine and PC using the USB cable.
2. Turn ON the machine's main switch pressing Select key.
3. Confirm that [AMBER-AIO BOOTROM] appears on the screen.

2008/08/06 V0.12  
\* 4IN1 BOOTROM MODE

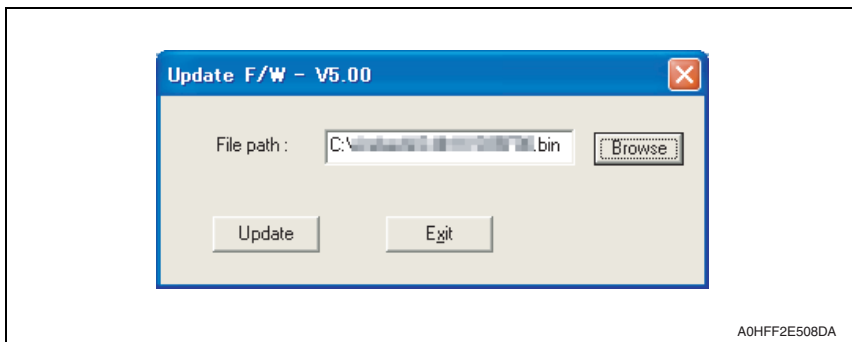


2008/08/06 V0.12  
AMBER-AIO BOOTROM

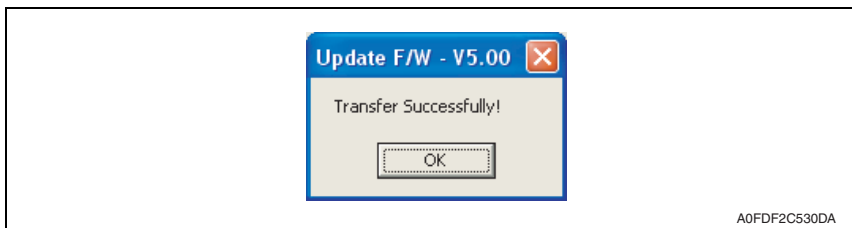
A0HFF2E509DA

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, "XXXXX.bin".

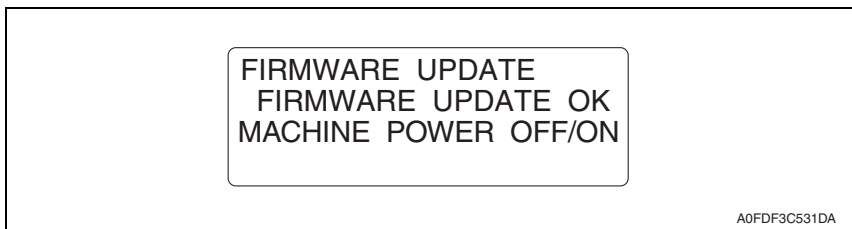
7. Click [Update].



8. Firmware updating starts.  
9. When [Transfer Successfully!] message appears on the screen, click [OK] 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 Firmware Version.

See P.80

## 7. Other

### 7.1 Disassembly/adjustment prohibited items

#### 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.

## 7.2 Disassembly/assembly/cleaning list (other parts)

### 7.2.1 Disassembly/assembly parts list

Section	Part name	Ref.Page
Exterior parts	Rear cover	P.31
	Left cover	P.31
	Right cover	P.32
	ADF rear cover *1	P.32
	Operation panel	P.33
	Original glass assy	P.33
Boards and etc.	Print control board (PRCB)	P.35
	MFP board (MFPB)	P.37
	FAX control board (FAXB) *1	P.39
	USB board (USB) *1	P.40
	DC power supply (DCPU)	P.41
	High voltage unit (HV)	P.43
Units	Transfer roller unit	P.44
	Fuser unit	P.45
	PH unit	P.46
	Media feed driving unit	P.48
	IR unit	P.50
	Scanner unit	P.52
	Auto document feeder unit (ADF) *1	P.53
Other Parts	Transport motor (M1)	P.55
	Developing motor (M3)	P.56
	Scanner motor assy	P.58
	DC power supply fan motor (FM1)	P.59
	Ozone ventilation fan motor (FM2)	P.60
	Exit tray cooling fan motor (FM4)	P.61
	Tray1 media feed solenoid (SD1)	P.62
	Registration roller solenoid (SD2)	P.63
	2nd image transfer pressure/retraction solenoid (SD4)	P.64
	Cleaning blade pressure/retraction solenoid (SD5)	P.65
	Speaker (SP) *1	P.65
	Tray1 media feed roller	P.66
	Separation pad	P.66
	ADF Separation pad *1	P.68

\*1: Only magicolor 1690MF

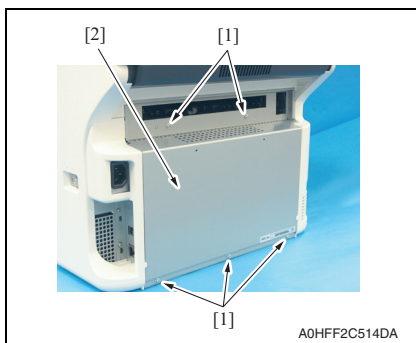
7.2.2      **Cleaning parts list**

Section	Part name	Ref. Page
Tray 1	Tray1 media feed roller	<a href="#">P.69</a>
Processing section	Print head window	<a href="#">P.69</a>
ADF	ADF media feed roller	<a href="#">P.70</a>

magicolor 1680MF  
magicolor 1690MF

## 7.3 Disassembly/assembly procedure

### 7.3.1 Rear cover



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

#### NOTE

- The left picture shows magicolor 1690MF.

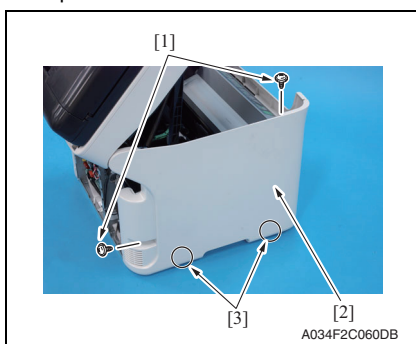
### 7.3.2 Left cover

#### ⚠ WARNING



- Make sure to remove the rear cover before mounting the left cover in order to prevent the gasket attached to the cover from coming off. The gasket removing may lead electric leakage, which could cause electric shock during the machine operation. Or if the gasket flakes off into the machine, it may cause abnormal heat generation.

1. Remove the rear cover.  
[See P.31](#)
2. Open the top cover.
3. Open the front cover.



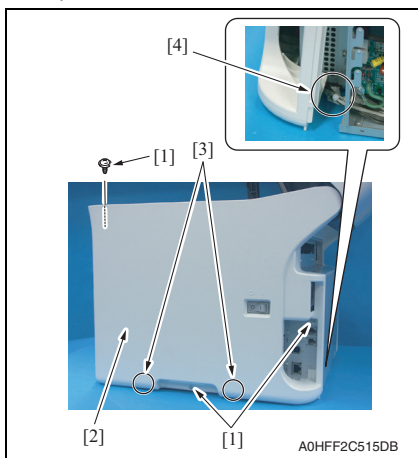
4. Remove two screws [1], and remove the left cover [2].

#### NOTE

- The left picture shows magicolor 1690MF.
- When reinstalling the left cover, make sure that the tabs [3] at two places are properly fitted in place.

### 7.3.3 Right cover

1. Open the top cover.
2. Open the front cover.



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

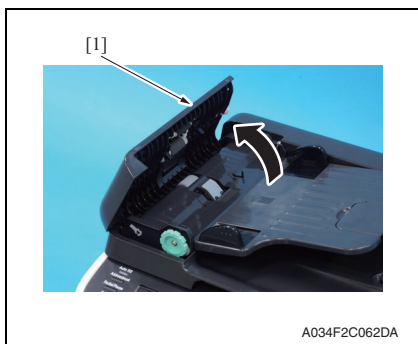
#### NOTE

- The left picture shows magicolor 1680MF.
- When reinstalling the right cover, make sure that the tabs [3] at two places are properly fitted in place.
- When reinstalling the right cover, use care not to allow the right cover to wedge harnesses and flat cables at position [4] shown.

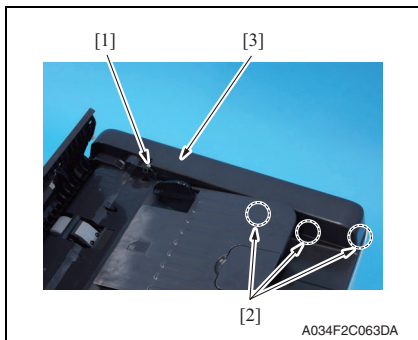
### 7.3.4 ADF rear cover

#### NOTE

- Only magicolor 1690MF.

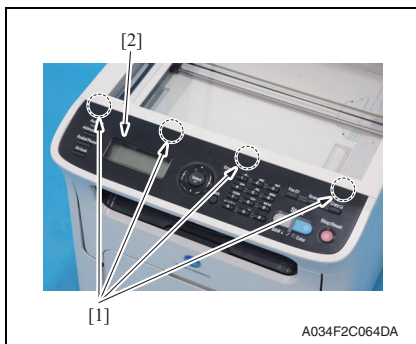


1. Open the ADF top cover [1].



2. Remove the screw [1] and unhook three tabs [2], and remove the ADF rear cover [3].

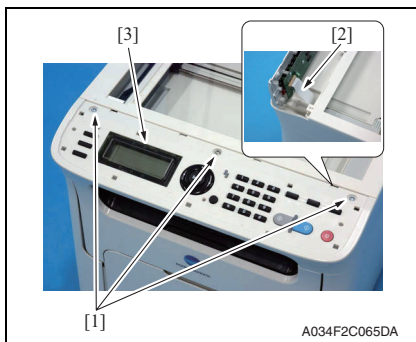
### 7.3.5 Operation panel



1. Unhook four tabs [1], and remove the operation panel sheet [2].

#### NOTE

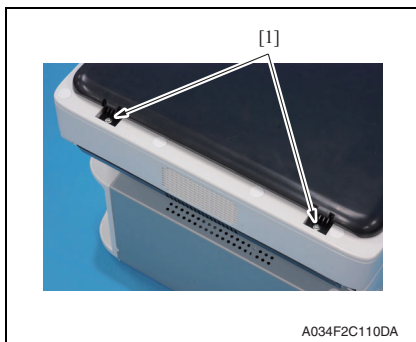
- The left picture shows magicolor 1690MF.



2. Remove three screws [1] and disconnect the flat cable [2], and remove the operation panel [3].

### 7.3.6 Original glass assy

1. Remove the auto document feeder unit. (Only magicolor 1690MF)  
See P.53



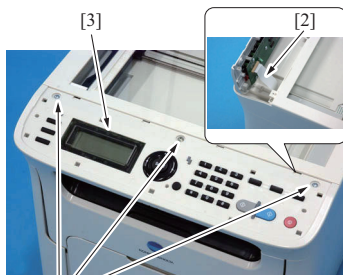
2. Remove two screws [1] of the original cover.  
(Only magicolor 1680MF)



[1]

A034F2C111DA

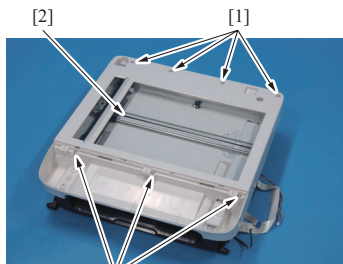
3. Unhook two tabs [1], and remove the original cover [2].  
(Only magicolor 1680MF)



[1]

A034F2C065DA

4. Remove three screws [1] and disconnect the flat cable [2], and remove the operation panel [3].



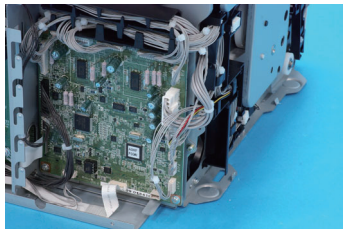
[1]

A034F2C112DA

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

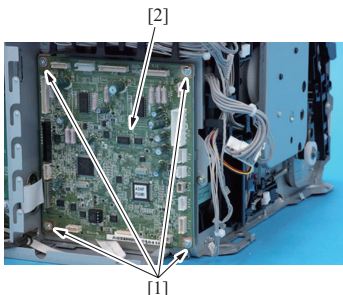
### 7.3.7 Print control board (PRCB)

1. Remove the rear cover.  
[See P.31](#)
2. Remove the left cover.  
[See P.31](#)



A034F2C066DA

3. Disconnect all connectors and flat cables from the printer control board.



A034F2C067DA

4. Remove four screws [1] and remove the printer control board [2].

- ⚠ 5. Remove EEPROM (IC9) [1] from the printer control board.

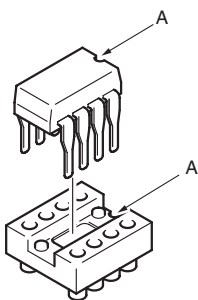
**NOTE**

- ⚠ • When the printer control board (PRCB) has been replaced, be sure to remount EEPROM (IC9). Remove EEPROM (IC9) from the old printer control board and mount it on the new printer control board.



[1]

A034F2C008DA



4138fs2544c0

**NOTE**

- When mounting EEPROM (IC9), align the notches (indicated by "A" in the illustration).

**NOTE**

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

See P.138

7.3.8 MFP board (MFPB)

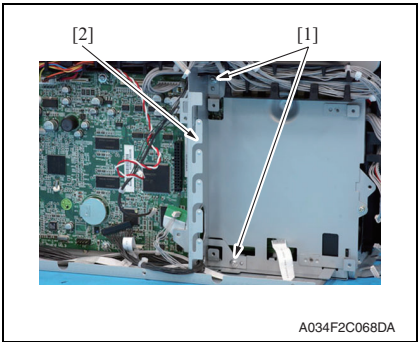
NOTE

- For magicolor 1690MF, boot data is written to the MFP board and firmware data is written to the FAX control board. To avoid any problem, be sure to replace both the MFP board and FAX control board at one time.
- When the MFP board is replaced, the setting values for the following items are cleared. Enter new setting values in the service mode.

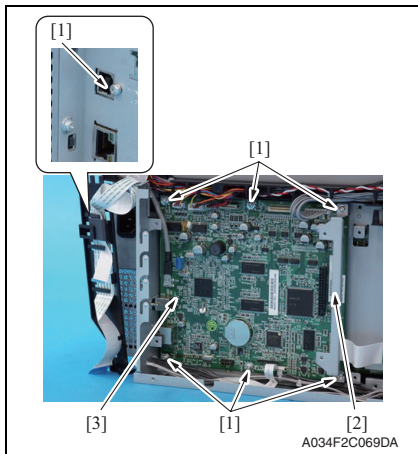
For the new setting values, refer to the values set at the shipment, which is shown on the back side of the label located inside of the front door.

Items for adjustment	magicolor 1680MF	magicolor 1690MF
CIS MAIN ZOOM	○	○
CIS SUB ZOOM	○	○
CIS MAIN REGIST	○	○
CIS SUB REGIST	○	○
ADF SUB ZOOM	—	○
ADF MAIN REG	—	○

1. Remove the rear cover.  
[See P.31](#)
2. Remove the right cover.  
[See P.32](#)
3. Remove the printer control board.  
[See P.35](#)
4. Remove the FAX control board. (Only magicolor 1690MF)  
[See P.39](#)



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

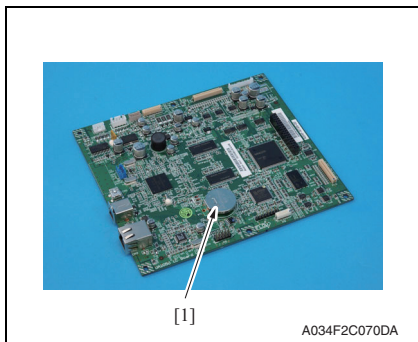


6. Disconnect all connectors and flat cables from the MFP board.

**NOTE**

- The left picture shows magicolor 1690MF.

7. Remove seven screws [1], and remove the plate [2] and the MFP board [3].



8. Remove the back up battery [1] on the MFP board.

**NOTE**

- Only magicolor 1690MF.

**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.138

### 7.3.9 FAX control board (FAXB)

#### NOTE

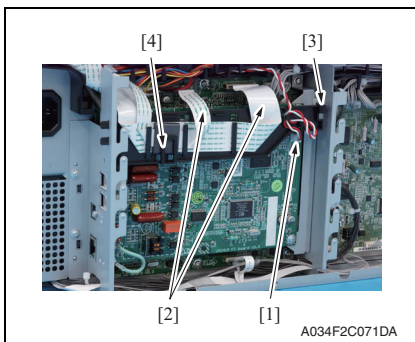
- Only magicolor 1690MF.
- For magicolor 1690MF, boot data is written to the MFP board and firmware data is written to the FAX control board. To avoid any problem, be sure to replace both the MFP board and FAX control board at one time.

1. Remove the rear cover.

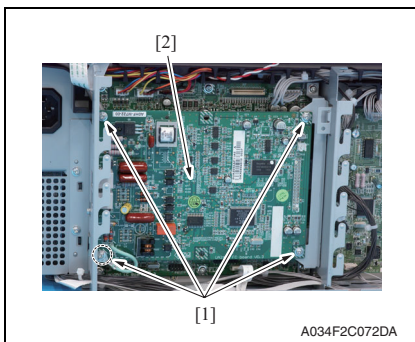
See P.31

2. Remove the right cover.

See P.32



3. Disconnect the connector (P1) [1].
4. Disconnect two flat cables (P6, P7) [2].
5. Unhook the tab [3], remove the harness guide [4].



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

#### NOTE

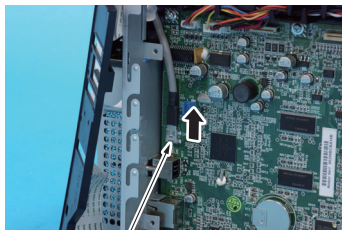
- When installing the FAX control board, each of the screws indicated by the arrows also fixes an earth terminal.

### 7.3.10 USB board (USB)

#### NOTE

- Only magicolor 1690MF.

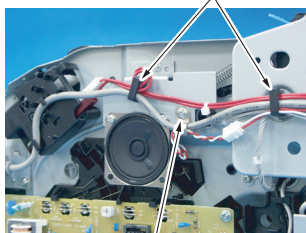
1. Remove the rear cover.  
[See P.31](#)
2. Remove the right cover.  
[See P.32](#)
3. Remove the FAX control board.  
[See P.39](#)



[1]

A034F2C073DA

4. Disconnect the connector (CN1) [1] from the MFP board.

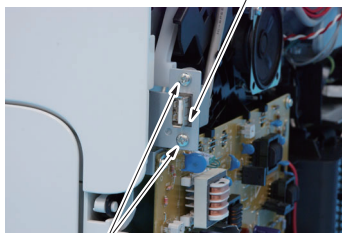


[1]

[2]

A0HFF2C518DA

5. Remove the harness [2] from two wire saddles [1].



[1]

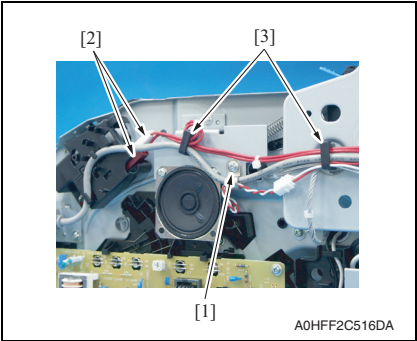
[2]

A034F2C075DA

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

**7.3.11 DC power supply (DCPU)**

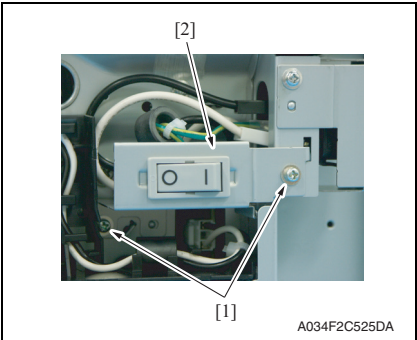
1. Remove the printer control board.  
[See P.35](#)
2. Remove the FAX control board. (Only magicolor 1690MF)  
[See P.39](#)
3. Remove the MFP board.  
[See P.37](#)



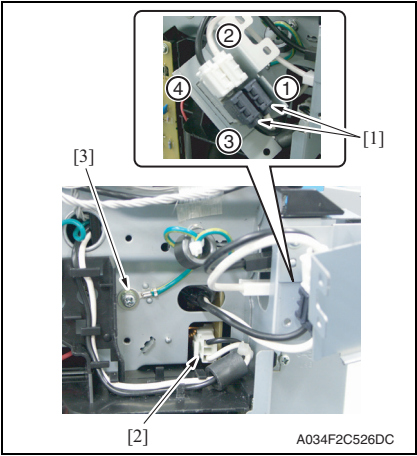
4. Remove the screw [1].
5. Disconnect two connectors [2] (Red and white), remove the harness from two wire saddles [3].

**NOTE**

- The left picture shows magicolor 1690MF.



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



7. Disconnect two connectors (black) [1].

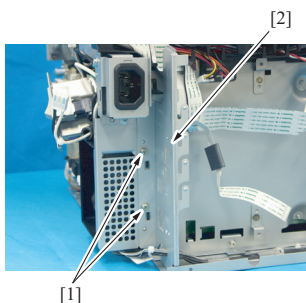
**NOTE**

- When mounting the main switch connectors, make sure that they are mounted at the right positions as detailed below.

No.	Color of connectors	Color of harnesses
①	Black	White
②	White	White
③	Black	Black
④	White	Black

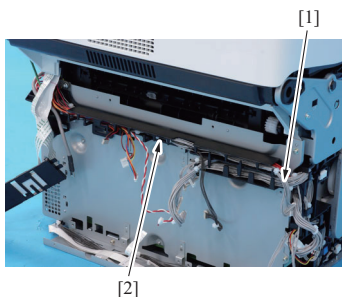
8. Disconnect the connector [2].
9. Remove the screw [3], and remove the earth.





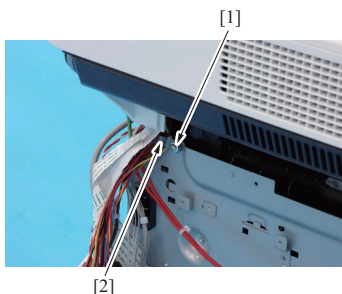
A0HFF2C517DA

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



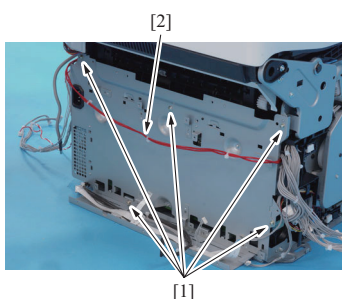
A034F2C085DA

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



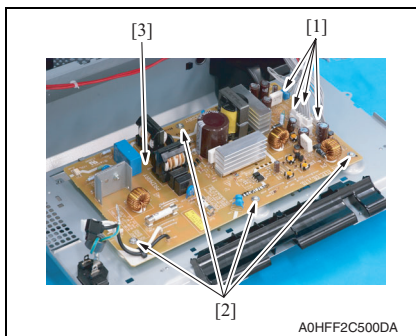
A034F2C086DA

12. Remove the screw [1], and remove the harness band [2].



A034F2C087DA

13. Remove five screws [1] to pull out the DC power unit assy [2].

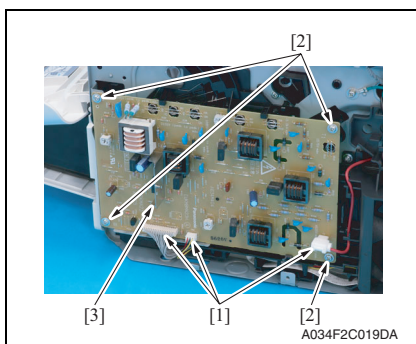


14. Disconnect four connectors [1] and remove four screws [2], and remove the DC power supply assy [3].

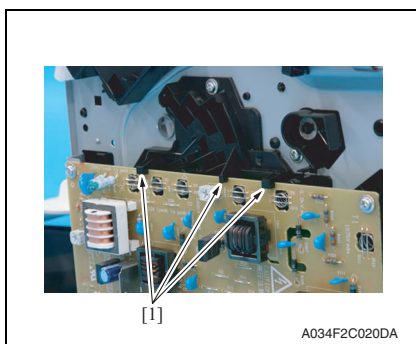
### 7.3.12 High voltage unit (HV)

1. Remove the right cover.

See P.32



2. Disconnect three connectors [1] and remove four screws [2], and remove the high voltage unit [3].



#### Precautions for reinstallation of the high voltage unit

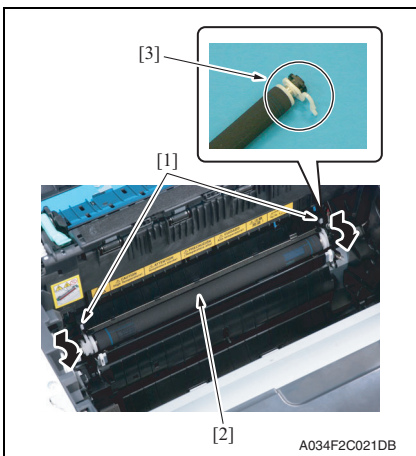
- Make sure that the high voltage unit fits into the tab [1] at the location shown on the left.
- During the reinstallation procedure, make sure that the high voltage terminal is not deformed or left loose.

### 7.3.13 Transfer roller unit

#### ⚠ A. Removal procedure

1. Remove the imaging cartridge.

See P.10

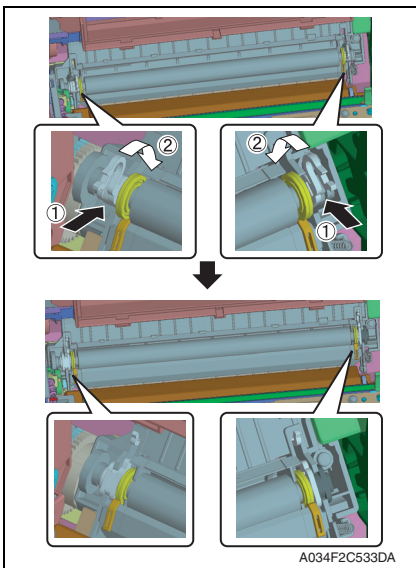


2. Press and pull the levers [1] at both sides forward to remove the transfer roller unit [2].

#### NOTE

- Use care not to lose the lever [3] at the position shown, as it is easy to come off position.
- Use care not to lose the two springs of the transfer roller unit. They can easily come off.

#### ⚠ B. Reinstallation procedure



1. Reinstall the transfer roller unit as shown.

#### NOTE

- Check that the transfer roller unit is mounted correctly as shown.

#### NOTE

- When the transfer roller unit is replaced with a new one, it is necessary to reset the maintenance counter.

See P.138

- Make calibration after replacing the transfer roller unit.

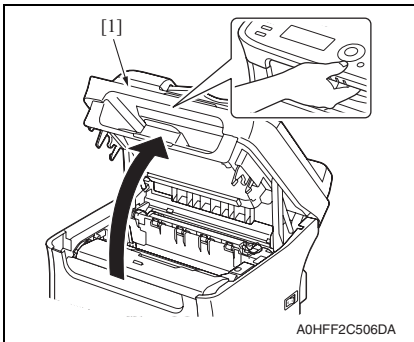
See P.91

## 7.3.14 Fuser unit

 **CAUTION**

- 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.

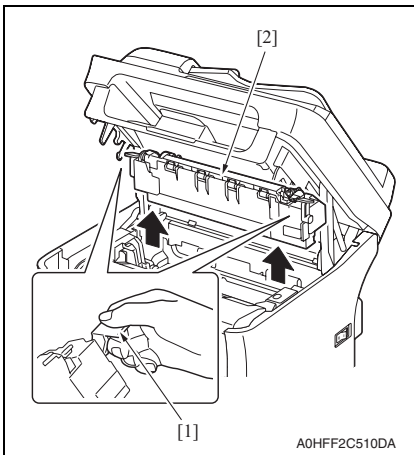
1. Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.



2. Open the top cover [1].

**NOTE**

- The left picture shows magicolor 1680MF.



3. Pull up the lever [1] to remove the fuser unit [2].

4. To reinstall, reverse the order of removal.

**NOTE**

- When the fuser unit is replaced with a new one, it is necessary to reset the maintenance counter.

See P.138

## 7.3.15 PH unit

**CAUTION**

- Do not replace the printer head unit while the power is ON.  
Laser beam generated during the above mentioned activity may cause blindness.



- Do not disassemble or adjust the printer head unit.  
Laser beam generated during the above mentioned activity may cause blindness.

1. Remove the imaging cartridge.  
[See P.10](#)
2. Remove the rear cover.  
[See P.31](#)
3. Remove the right cover.  
[See P.32](#)
4. Remove the left cover.  
[See P.31](#)
5. Remove the operation panel.  
[See P.33](#)
6. Remove the high voltage unit.  
[See P.43](#)



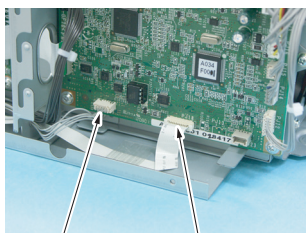
[1]

A034F2C088DA

7. Disconnect the flat cable (P8) [1] on the MFP board.

**NOTE**

- The left picture shows magicolor 1690MF.

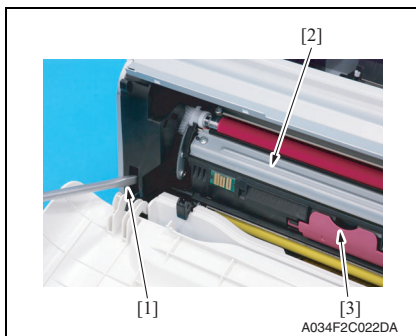


[1]

[2]

A034F2C501DA

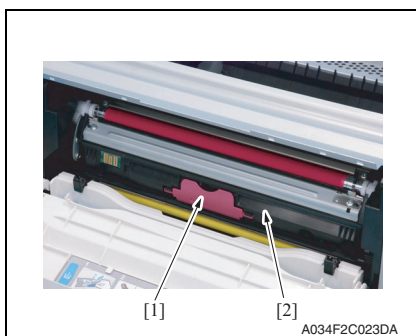
8. Disconnect the connector (PJ19) [1] and flat cable (PJ18) [2] on the printer control board.



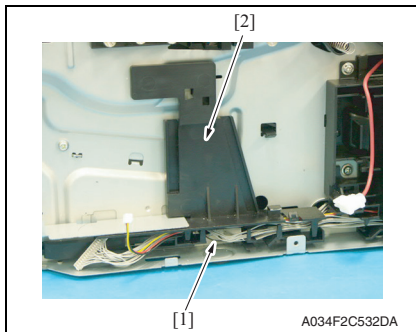
9. Press the rack release lever [1] and then rotate the rack [2] so that the toner cartridge [3] is moved to a position, at which the toner cartridge can be easily removed.

**NOTE**

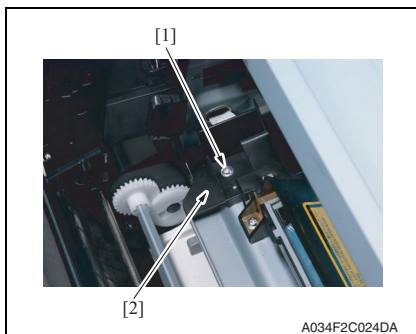
- When rotating the rack, use care not to touch the developing roller.



10. Hold onto the handle [1], pull it and remove the toner cartridge [2].
11. Repeat steps 9. and 10. to remove all toner cartridges.

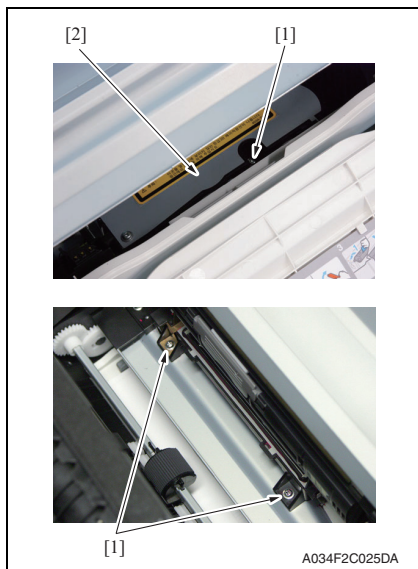


12. Remove the harness from the guide [1] and remove the harness cover [2].



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





14. Remove three screws [1], and remove the PH unit [2].

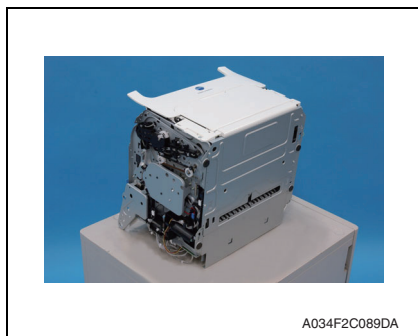
**NOTE**

- To remove the front screw, move the rack to the position where the screw can be removed easier and remove the screw using a short driver.

**7.3.16 Media feed driving unit**

1. Remove the IR unit.

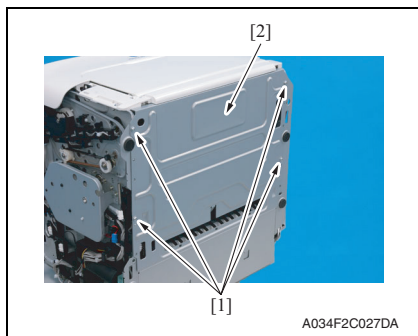
See P.50



2. Install the rear cover.  
3. Lay the main body of the printer on its back.

**NOTE**

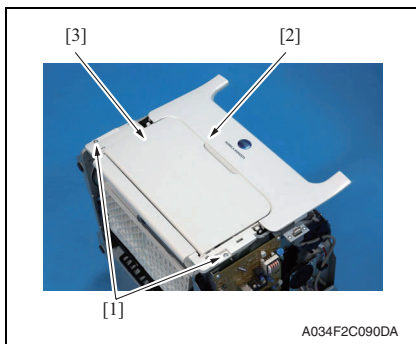
- Before performing this step, be sure first to install the rear cover and place the printer on a flat desk or surface, and use care not to apply an excessive force to the printer.



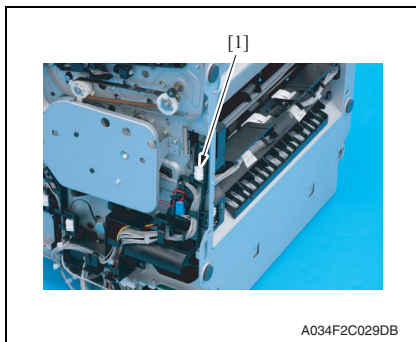
4. Remove four screws [1], and remove the plate [2].

**NOTE**

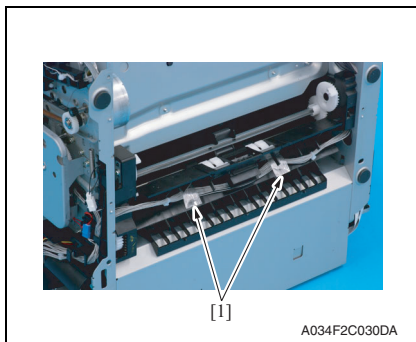
- Use care not to lose the two springs.



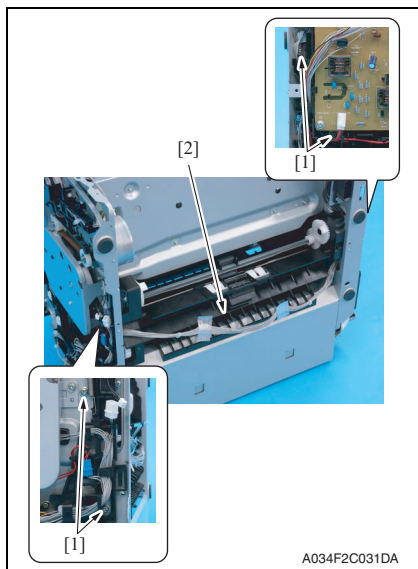
5. Remove two screws [1] and open the front cover [2] to remove the media feed unit [3].



6. Disconnect the connector [1] of the tray1 media feed solenoid.



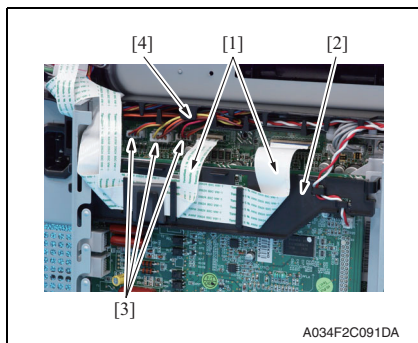
7. Remove the tapes [1] at two positions.



8. Remove four screws [1], and remove the media feed driving unit [2].

### 7.3.17 IR unit

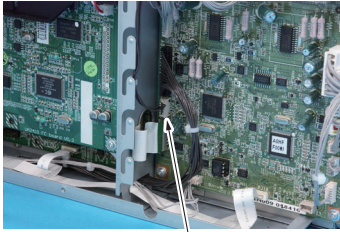
1. Remove the rear cover.  
[See P.31](#)
2. Remove the right cover.  
[See P.32](#)
3. Remove the left cover.  
[See P.31](#)



4. Remove two flat cables [1] (P6, P7) from the MFP board and remove them from the guide [2].
5. Remove three connectors [3] (P1, P2, P4) from the MFP board.  
Remove their harness from the harness guide [4].

#### NOTE

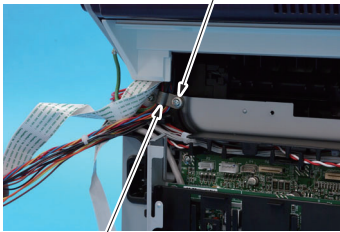
- For magicolor 1680MF, remove the only one connector (P2) from the board.



[1]

A034F2C092DA

6. Remove the connector (PJ24) [1] from the printer control board and remove its harness from the harness guide.

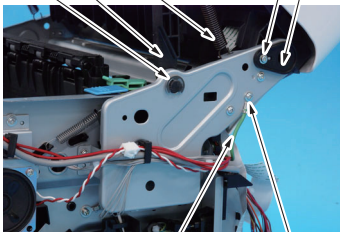


[1]

[2]

A034F2C093DA

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



[2]

[1]

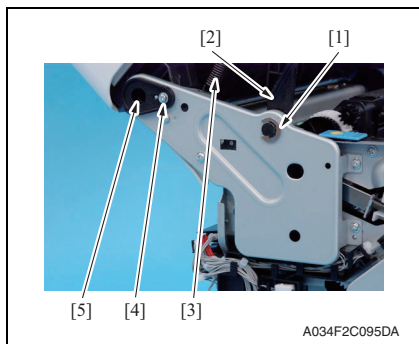
A034F2C094DA

8. Remove the screws [1], and remove the earth cable [2].
9. Remove the E-ring [3] from the right of the main body and remove the arm [4].
10. Remove the spring [5] from the notch on the plate.

**NOTE**

- When removing the spring [5], the IR unit moves down, posing a danger of your hands getting caught under the IR unit. Be sure to securely hold the IR unit and prevent it from moving down.

11. Remove the screw [6], and remove the right stopper [7].



12. Remove the E-ring [1] from the left of the main body and remove the arm [2].

13. Remove the spring [3] from the notch on the plate.

#### NOTE

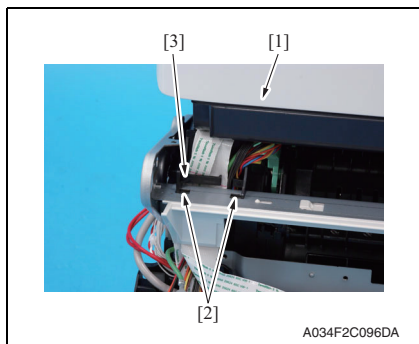
- When removing the spring [3], the IR unit moves down, posing a danger of your hands getting caught under the IR unit. Be sure to securely hold the IR unit to prevent it from moving down.

14. Remove the screw [4], and remove the left stopper [5].

15. Raise the IR unit [1] a little.

16. Unhook the tab [2], and remove the harness guide [3].

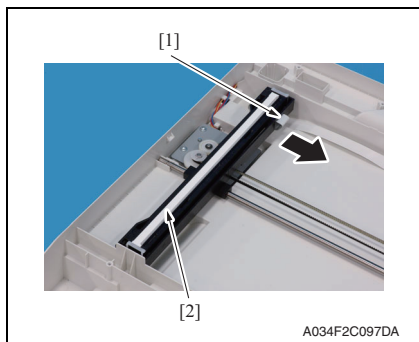
17. Pull out all harnesses and flat cables and remove the IR unit [1].



### 7.3.18 Scanner unit

1. Remove the original glass.

[See P.33](#)



2. Disconnect the flat cable [1], and remove the scanner unit [2].

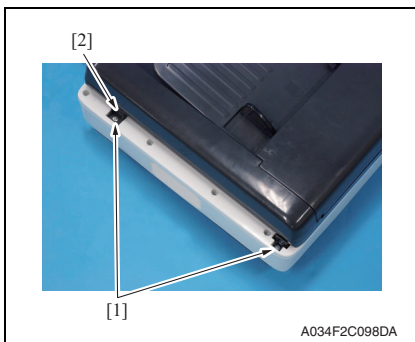
### 7.3.19 Auto document feeder unit (ADF)

#### NOTE

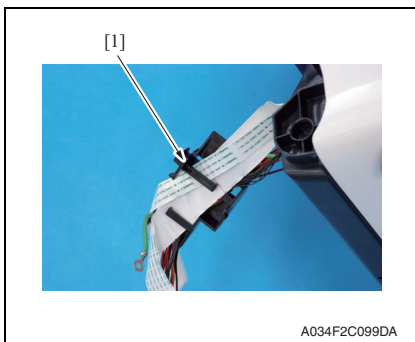
- Only magicolor 1690MF.

1. Remove the IR unit.

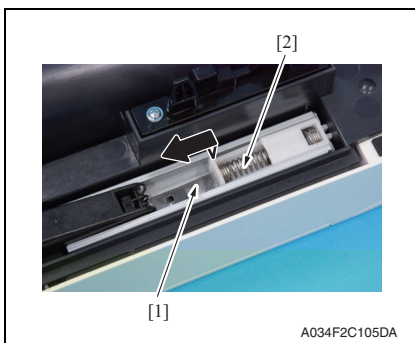
See P.50



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



3. Remove the harness from the harness guide [1].



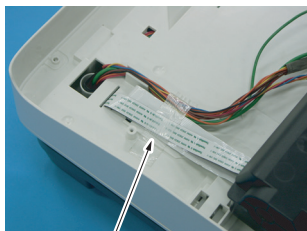
4. While pressing down the plate [1], move the spring assy [2] in the direction of the arrow.



[1]

A034F2C106DA

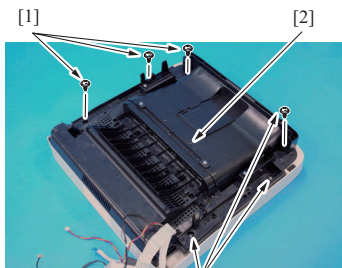
5. Remove the screw [1], and remove the arm unit [2].
6. Repeat the steps 4 and 5 to remove the arm unit located on the opposite side.



[1]

A0HFF2C522DA

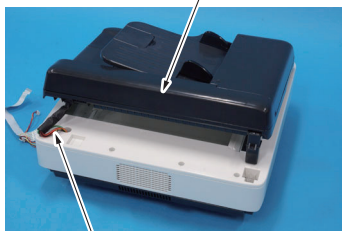
7. Remove the tape [1].



[1]

A034F2C107DA

8. Remove six screws [1], and remove the IR unit lower cover assy [2].



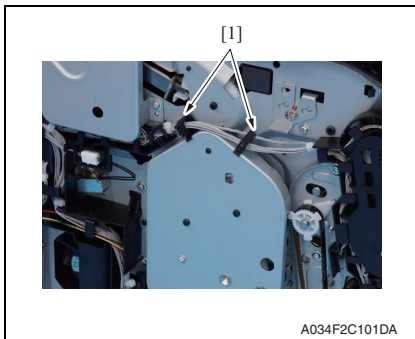
[1]

A034F2C100DA

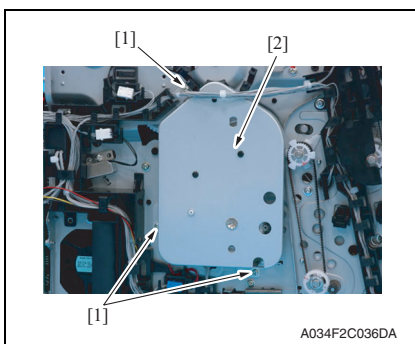
9. Pull out all harnesses [1] and remove the auto document feeder unit [2].

**7.3.20 Transport motor (M1)**

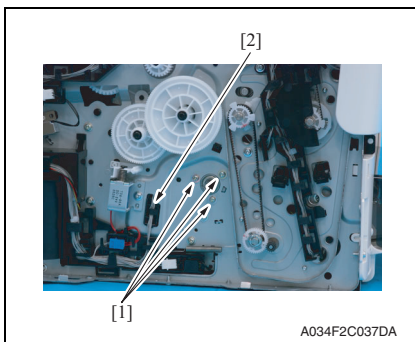
1. Remove the left cover.  
[See P.31](#)
2. Remove all toner cartridges.  
[See P.7](#)



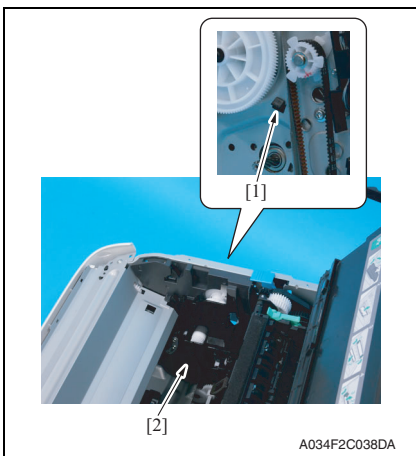
3. Remove the harness from two wire saddles [1].



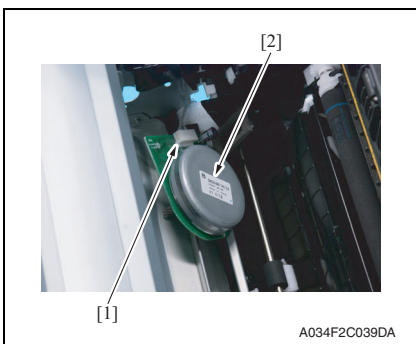
4. Remove three screws [1], and remove the plate [2].



5. Remove three screws [1].
6. Remove the harness [2] from the harness guide.



7. Unlock the tab [1], and remove the motor cover [2].

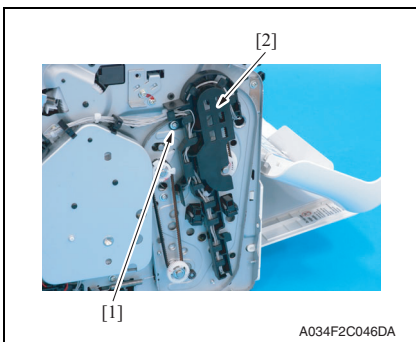


8. Disconnect the connector [1], and remove the transport motor [2].

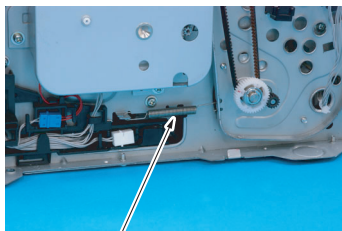
### 7.3.21 Developing motor (M3)

1. Remove the left cover.

[See P.31](#)



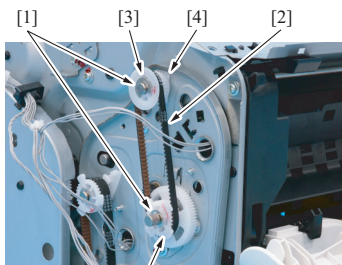
2. Remove the screw [1], and remove the harness guide [2] by taking out the harness.



[1]

A034F2C047DA

3. Remove the spring [1].



[1]

[3]

[4]

[2]

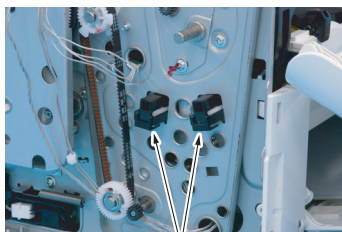
[3]

A034F2C048DA

4. Remove two E-rings [1], belt [2], two gears [3] and bearing [4].

**NOTE**

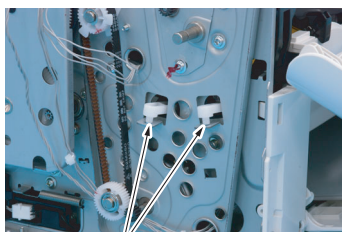
- Make sure to pull out the belt [2] and gears [3] forward parallel together.
- Use care not to lose the shaft.



[1]

A034F2C049DA

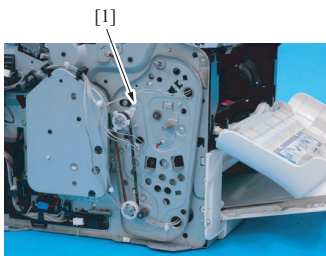
5. Remove two covers [1] by taking out the hooks at both sides.



[1]

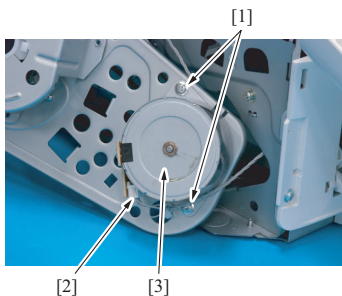
A034F2C050DA

6. Remove two levers [1].



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7. Slide out the motor assy [1].

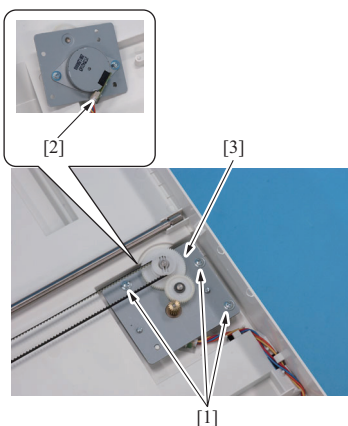


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8. Remove two screws [1] and disconnect the connector [2], and remove the developing motor [3].

### 7.3.22 Scanner motor assy

1. Remove the original glass assy.  
[See P.33](#)

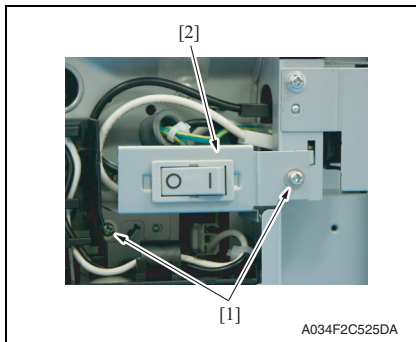


A034F2C103DA

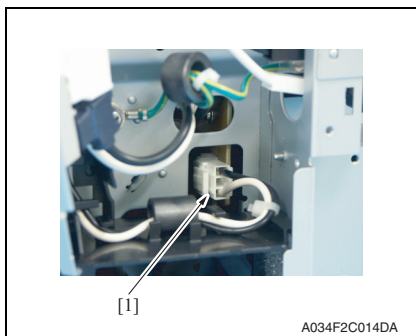
2. Remove three screws [1] and disconnect the connector [2], and remove the scanner motor assy [3].

**7.3.23 DC power supply fan motor (FM1)**

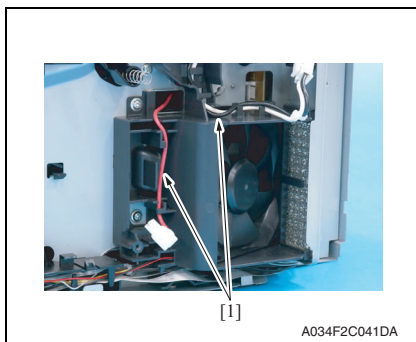
1. Remove the rear cover.  
[See P.31](#)
2. Remove the right cover.  
[See P.32](#)
3. Remove the high voltage unit.  
[See P.43](#)



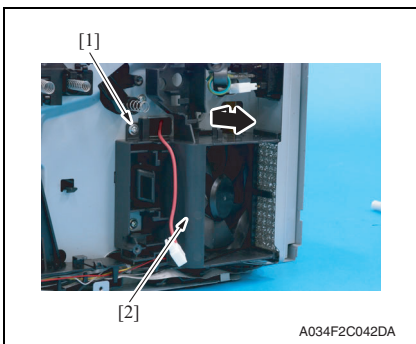
4. Remove two screws [1], and remove the main switch [2].



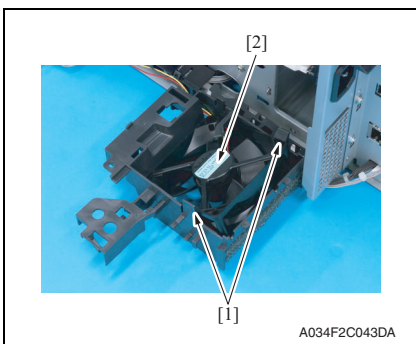
5. Disconnect the connector [1].



6. Remove the harness [1] from the wire saddle.



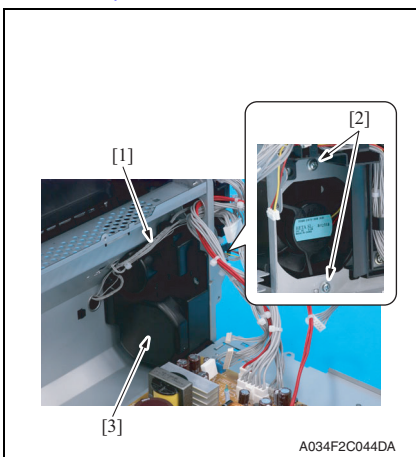
7. Remove the screw [1] to take out the DC power unit motor assy [2] as shown in the picture.



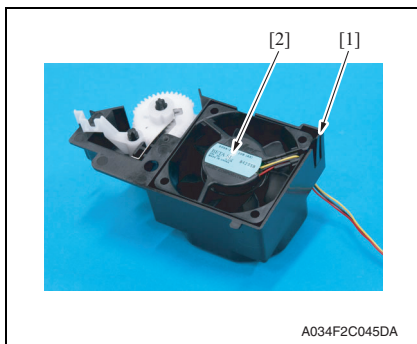
8. Unhook two tabs [1], remove the DC power supply fan motor [2].

### 7.3.24 Ozone ventilation fan motor (FM2)

1. Slide out the DC power supply assy.  
See step 1 to 9 of P.41



2. Remove the harness [1] from the harness guide.
3. Remove the screw [2], remove the ozone ventilation fan motor assy [3].

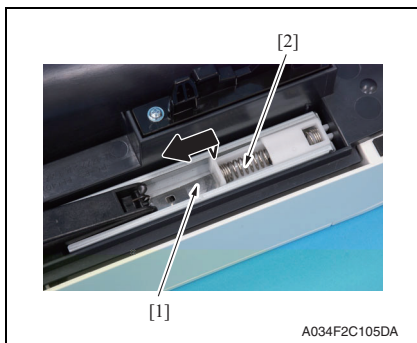


4. Unhook the tab [1], remove the ozone ventilation fan motor [2].

magicolor 1680MF  
magicolor 1690MF

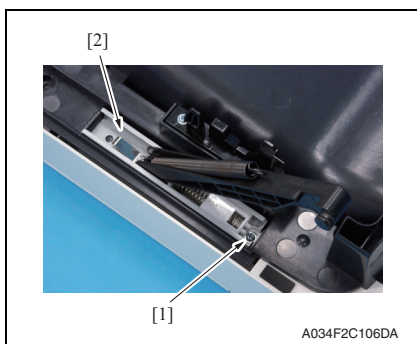
### 7.3.25 Exit tray cooling fan motor (FM4)

1. Remove the IR unit.  
[See P.50](#)
2. Remove the auto document feeder unit. (Only magicolor 1690MF)  
[See P.53](#)



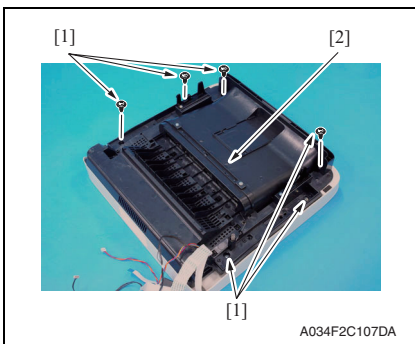
3. While pressing down the plate [1], move the spring assy [2] in the direction of the arrow.

MAINTENANCE

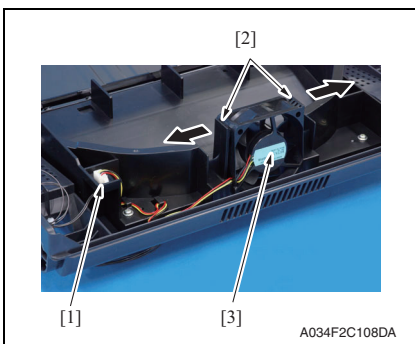


4. Remove the screw [1], and remove the arm unit [2].

5. Repeat the steps 3 and 4 to remove the arm unit located on the opposite side.



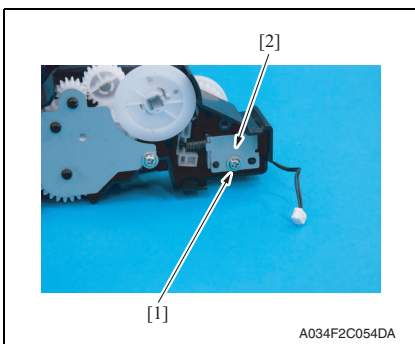
6. Remove six screws [1], and remove the IR unit lower cover assy [2].



7. Remove the connector [1] and move the fixing members [2] in the direction of the arrow to remove the exit tray cooling fan motor [3].

### 7.3.26 Tray1 media feed solenoid (SD1)

1. Remove the media feed driving unit.  
[See P.48](#)



2. Remove the screw [1], and remove the tray1 media feed solenoid [2].

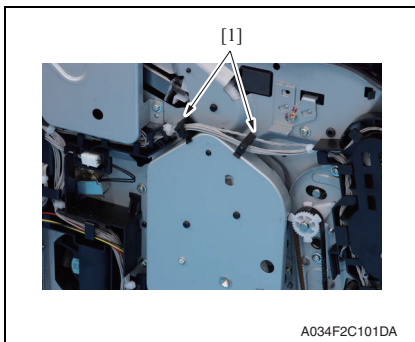
#### NOTE

- Use care not to lose the two springs.

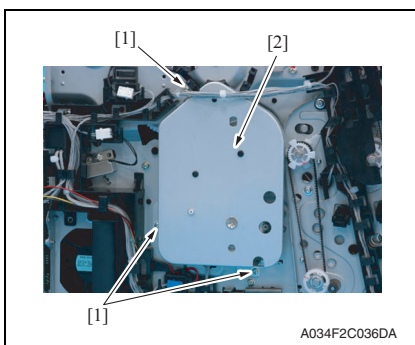
**7.3.27 Registration roller solenoid (SD2)**

1. Remove the left cover.

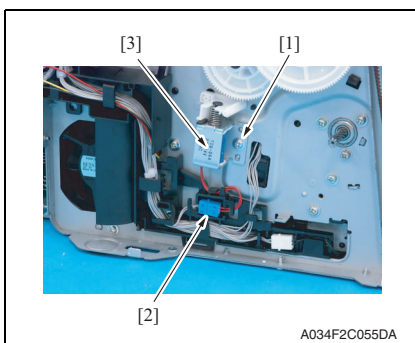
See P.31



2. Remove the harness from two wire saddles [1].



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



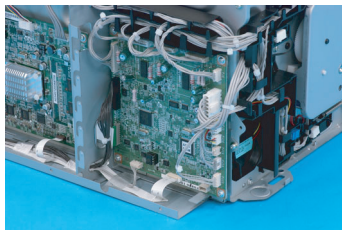
4. Remove the screw [1] and disconnect the connector [2], and remove the registration roller solenoid [3].

**NOTE**

- Use care not to lose the two springs.

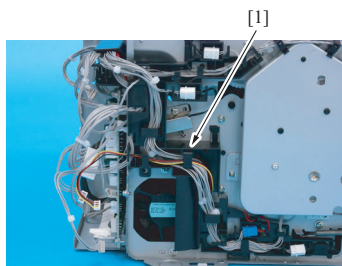
### 7.3.28 2nd image transfer pressure/retraction solenoid (SD4)

1. Remove the rear cover.  
[See P.31](#)
2. Remove the left cover.  
[See P.31](#)



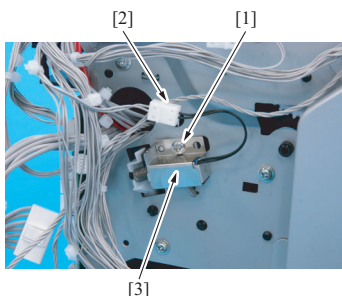
A034F2C006DA

3. Disconnect all connectors and flat cables from the printer control board.



A034F2C057DA

4. Remove the harness from the harness guide [1] to remove it.



A034F2C058DA

5. Remove the screw [1] and disconnect the connector [2], and remove the 2nd image transfer pressure/retraction solenoid [3].

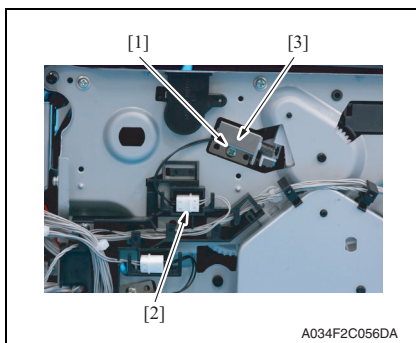
**NOTE**

- Use care not to lose the two springs.

### 7.3.29 Cleaning blade pressure/retraction solenoid (SD5)

1. Remove the left cover.

See P.31



2. Remove the screw [1] and disconnect the connector [2], and remove the cleaning blade pressure/retraction solenoid [3].

#### NOTE

- Use care not to lose the two springs.

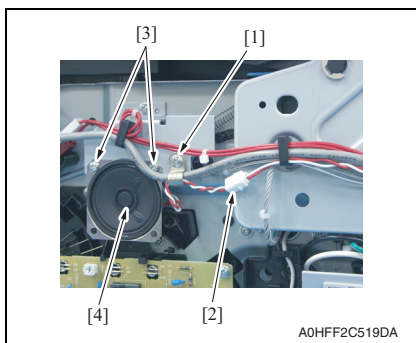
### 7.3.30 Speaker (SP)

#### NOTE

- Only magicolor 1690MF.

1. Remove the right cover.

See P.32

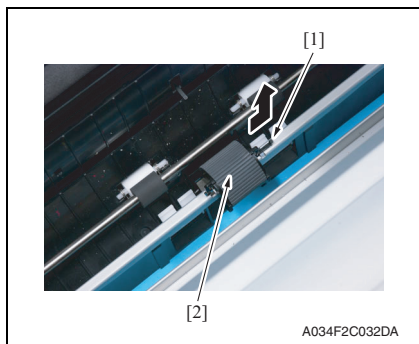


2. Remove the screw [1].
3. Disconnect the connector [2] and remove two screws [3], and remove the speaker [4].

### 7.3.31 Tray 1 media feed roller

1. Open the top cover.
2. Remove the imaging cartridge.

See P.10

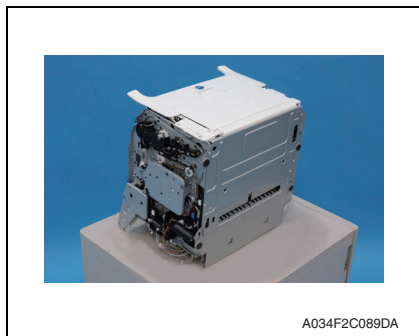


3. Remove the media feed roller [2] pulling up the hook [1].

### 7.3.32 Separation pad

1. Remove the IR unit.

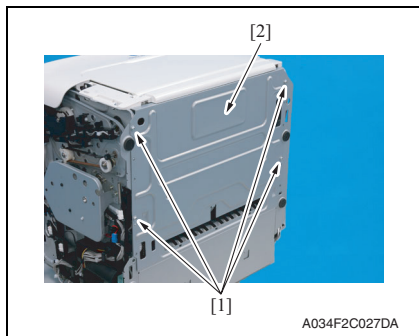
See P.50



2. Install the rear cover.
3. Lay the main body of the printer on its back.

#### NOTE

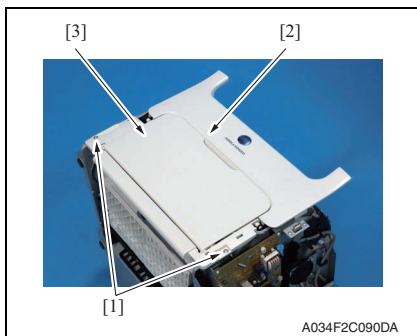
- Before performing this step, be sure first to install the rear cover and place the printer on a flat desk or surface, and use care not to apply an excessive force to the printer.



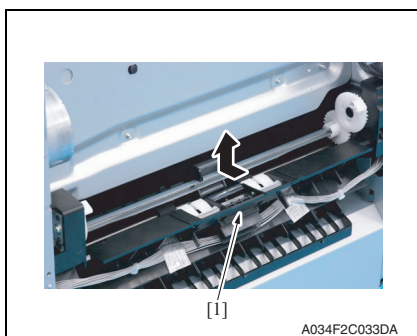
4. Remove four screws [1], and remove the plate [2].

#### NOTE

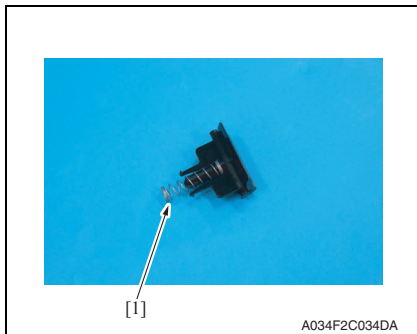
- Use care not to lose the two springs.



5. Remove two screws [1] and open the front cover [2] to remove the media feed tray unit [3].



6. Remove the separation pad [1].



7. Remove the spring [1].

### 7.3.33 ADF separation pad

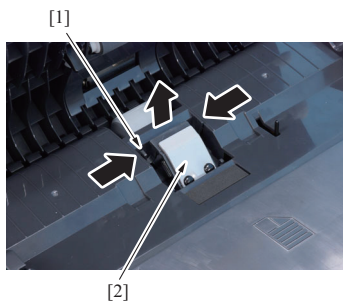
#### NOTE

- Only magicolor 1690MF.



A034F2C062DA

1. Open the ADF top cover [1].



A034F2C113DA

2. Unhook the tab [1], and remove the ADF separation pad [2].

## 7.4 Cleaning procedure

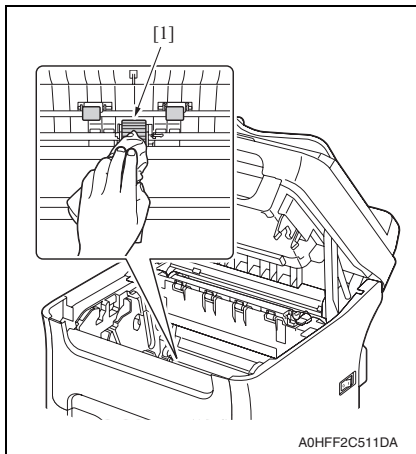
### NOTE

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

#### 7.4.1 Tray 1 media feed roller

1. Open the top cover.
2. Remove the imaging cartridge.

See P.10



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

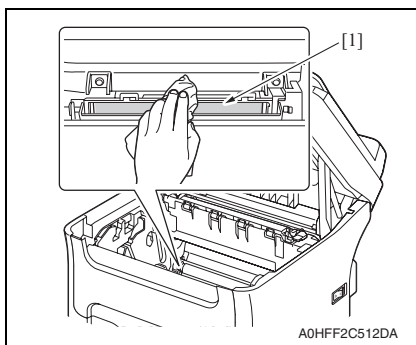
#### 7.4.2 Printer head window

1. Enter the [P/H CLEAN UP] mode.

See P.75

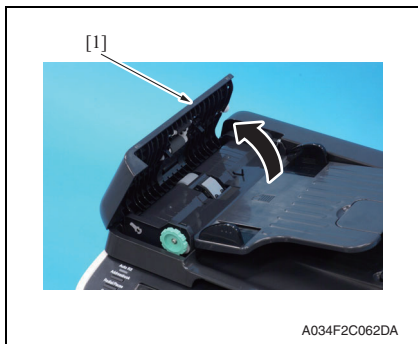
2. Open the top cover.
3. Remove the imaging cartridge.

See P.10

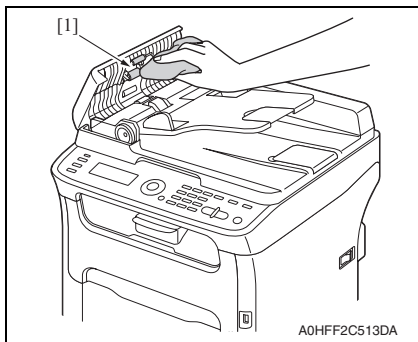


4. Clean P/H window [1] with soft cloth.

### 7.4.3 ADF media feed roller



1. Open the ADF top cover [1].



2. Clean the media feed rollers by wiping them with a soft, dry cloth.

## ADJUSTMENT/SETTING

### 8. 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 media 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.

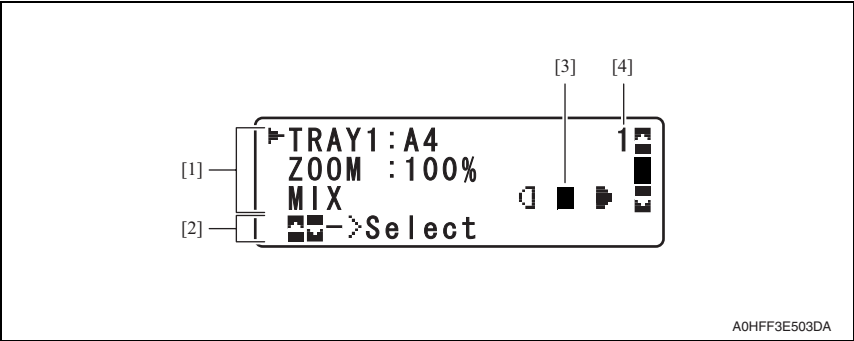
#### CAUTION

- **Be sure 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 fusing 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. Description of the control panel

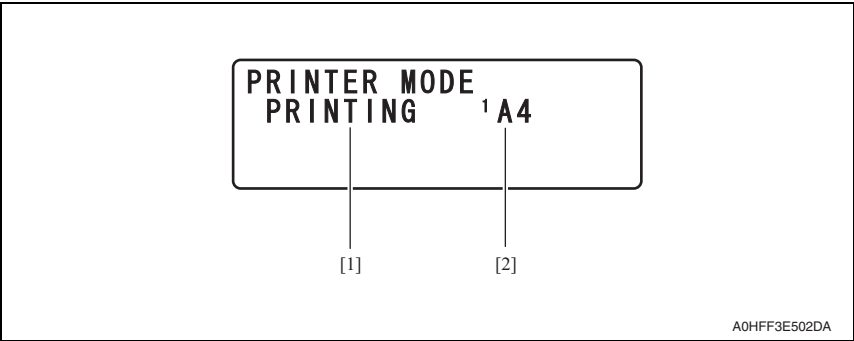
9.1 Control panel display

9.1.1 Copy mode main screen



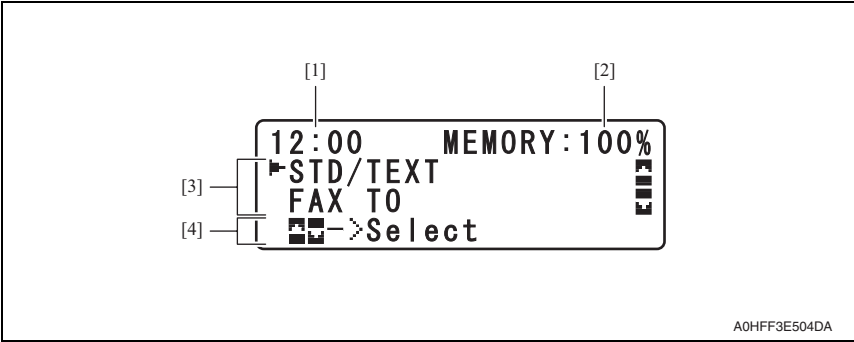
No.	Name	Description
[1]	Copy settings	<ul style="list-style-type: none"><li>Indicates the media tray and media size that is selected.</li><li>Displays the zoom ratio currently set.</li><li>Displays the type of the document currently set.</li></ul>
[2]	Status	Allows the current settings to be checked and the various settings to be changed. Depending on the situation, the machine status or an error message may appear in the fourth line.
[3]	Copy density	Displays the copy density currently set.
[4]	Number of copies	Displays the number of copies currently set to be made.

9.1.2 Print mode main screen



No.	Name	Description
[1]	Status	Displays messages indicating operations such as printing.
[2]	Media tray/media size	Indicates the media tray and media size that is selected.

9.1.3 FAX mode main screen (only magicolor 1690MF)



No.	Name	Description
[1]	Time	Displays the time currently specified with [ADMIN. MANAGEMENT] - [USER SETTING] - [DATE&TIME] in the UTILITY menu.
[2]	Available memory	Indicates the percentage of memory available for fax operations.
[3]	Fax settings	<ul style="list-style-type: none"><li>Indicates the fax quality that is selected.</li><li>Indicates the specified fax destination.</li><li>Indicates the fax transmission mode that is selected.</li></ul>
[4]	Status	Depending on the situation, the machine status or an error message may appear.

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

# 10. PRINTER MODE

## 10.1 PRINTER MODE function tree

- With the main screen displayed, press the ◀ key to display the [PRINTER MODE] screen.

PRINTER MODE			Ref. page
TONER REMAINING			P.74
T/C CHANGE	REPLACE MODE	Y TONER	P.74
		M TONER	
		C TONER	
		K TONER	
	EJECT MODE		P.75
	P/H CLEAN MODE		P.75

## 10.2 TONER REMAINING

Function	• Displays the amount of toner of each color still available for use.
Use	• For maintenance control of toner cartridges.
Setting/ procedure	1. Select [PRINTER MODE] → [TONER REMAINING] and press the Select key to display [TONER REMAINING] screen. • Pressing the Stop/Reset key will cause the main screen to reappear.

## 10.3 T/C CHANGE

### 10.3.1 REPLACE MODE

Function	• Moves the specified color of toner cartridge into replacement position, so it can be replaced.
Use	• To replace the specified color of toner cartridge.
Setting /procedure	1. Select [PRINTER MODE] → [T/C CHANGE] → [REPLACE MODE] and the specific color of toner to be replaced. 2. Press the Select key. 3. The rack rotates to bring the specified color of toner cartridge to the replacement position. When the rack stops moving, the message [REPLACE MODE CHANGE X TONER] appears on the display. 4. Open the front cover and replace the toner cartridge. 5. Close the front cover. The initial screen will then reappear.

**10.3.2 EJECT MODE**

Function	<ul style="list-style-type: none"> <li>To remove (or replace) every toner cartridge in order and move the position where the removal is available so that all toner cartridges can be removed (or replaced).</li> </ul>
Use	<ul style="list-style-type: none"> <li>To remove (or replace) all toner cartridges.</li> </ul>
Setting /procedure	<ol style="list-style-type: none"> <li>Select [PRINTER MODE] → [T/C CHANGE] → [EJECT MODE] and press the Select key.</li> <li>The rack rotates to bring the first color toner cartridge to the replacement position. When the rack stops moving, the message [EJECT MODE REMOVE M TONER] appears on the display.</li> <li>Open the front cover and remove the magenta toner. (Or replace the magenta toner.)</li> <li>Close the front cover. then, the message [EJECT MODE REMOVE C TONER] appears on the display.</li> <li>Repeating the same steps, remove the remaining toner cartridges.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The toner cartridges are to be removed in the order of M → C → K → Y → M.</b></li> </ul> <ol style="list-style-type: none"> <li>Close the top cover. the initial screen will then reappear.</li> </ol>

**10.3.3 P/H CLEAN MODE**

Function	<ul style="list-style-type: none"> <li>To move the toner cartridge (Magenta) to the position where it can be removed so that the printer head window can be cleaned.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To clean the printer head window.</li> </ul>
Setting /procedure	<ol style="list-style-type: none"> <li>Select [PRINTER MODE] → [T/C CHANGE] → [P/H CLEAN UP] and press the Select key.</li> <li>The rack rotates to bring the first color toner cartridge to the replacement position. When the rack stops moving, the message [REMOVE M TONER CLOSE COVER] appears on the display.</li> <li>Open the front cover and remove the toner cartridge (M).</li> <li>Close the front cover.</li> <li>When [REMOVE I/C CLEAN GLASS] is displayed, open the top cover and remove the imaging cartridge.</li> <li>Clean the print head window by wiping it with a soft, dry cloth.</li> <li>Close the top cover.</li> <li>When [CLEAN COMPLETE PRESS STOP KEY] is displayed, press the Stop/Reset key.</li> <li>When [INSTALL M TONER CLOSE COVER] is displayed, install the toner cartridge (M) and close the front cover.</li> </ol>

# 11. REPORT/STATUS mode

## 11.1 REPORT/STATUS mode function tree

1. Press the ▲ and ▼ key to select [REPORT/STATUS], and then press the Select key.

### NOTE

- <\*1>: Displayed only on magicolor 1690MF

REPORT/STATUS mode		Ref. page
TOTAL PRINT	TOTAL PRINT	P.77
	MONO COPY	P.77
	COLOR COPY	P.77
	MONO PRINT	P.77
	COLOR PRINT	P.77
	FAX PRINT <*1>	P.77
	TOTAL SCAN	P.77
SUPPLIES STATUS	C TONER	P.78
	M TONER	P.78
	Y TONER	P.78
	K TONER	P.78
	I/C	P.78
TX/RX RESULT		P.79
REPORT	TX RESULT REPORT <*1>	P.79
	RX RESULT REPORT <*1>	P.79
	ACTIVITY REPORT <*1>	P.79
	MEMORY DATA LIST <*1>	P.79
	MEMORY IMAGE PRINT <*1>	P.79
	FAVORITE LIST <*1>	P.79
	SPEED DIAL LIST <*1>	P.80
	GROUP DIAL LIST <*1>	P.80
	UTILITY MAP	P.80
	CONFIGURATION PAGE	P.80
	DEMO PAGE <*1>	P.84

**11.2 TOTAL PRINT**

- The total number of pages for each of the following can be checked.

**11.2.1 TOTAL PRINT**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages printed.</li></ul>
Use	

**11.2.2 MONO COPY**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages copied in black-and-white.</li></ul>
Use	

**11.2.3 COLOR COPY**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages copied in color.</li></ul>
Use	

**11.2.4 MONO PRINT**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages printed in black-and-white.</li></ul>
Use	

**11.2.5 COLOR PRINT**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages printed in color.</li></ul>
Use	

**11.2.6 FAX PRINT**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of pages that were faxed.</li></ul>
Use	

**11.2.7 TOTAL SCAN**

Function	<ul style="list-style-type: none"><li>• This counter shows the total number of document pages that were scanned.</li></ul>
Use	

## 11.3 SUPPLIES STATUS

- The remaining amount of toner in the toner cartridges and the remaining service life of the imaging units can be displayed as a percentage.

### 11.3.1 C TONER

Function	• Displays the remaining amount of toner in the cyan (C) toner cartridge as a percentage.
Use	

### 11.3.2 M TONER

Function	• Displays the remaining amount of toner in the magenta (M) toner cartridge as a percentage.
Use	

### 11.3.3 Y TONER

Function	• Displays the remaining amount of toner in the yellow (Y) toner cartridge as a percentage.
Use	

### 11.3.4 K TONER

Function	• Displays the remaining amount of toner in the black (K) toner cartridge as a percentage.
Use	

### 11.3.5 I/C

Function	• Displays the remaining service life of the imaging unit as a percentage.
Use	

## 11.4 TX/RX RESULT

Function	<ul style="list-style-type: none"> <li>The results of a maximum of 60 fax transmissions/receptions can be viewed.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the Start key is pressed, details of the report displayed in the message window can be printed.</li> </ul>

## 11.5 REPORT

- The machine settings, lists and reports related to fax can be printed.
  - Press the ▲ and ▼ key to select [REPORT/STATUS], and then press the Select key.
  - Select [REPORT], and press the Select key.
  - Press the ▲ and ▼ key to select the desired report, press the Select key, and then Start key.  
The report is printed

### 11.5.1 TX RESULT REPORT

Function	<ul style="list-style-type: none"> <li>The [SESSION], [FUNCTION], [NO.], [DESTINATION STATION], [DATE], [TIME], [PAGE], [DURATION], [MODE], and [RESULT] are printed.</li> </ul>
Use	

### 11.5.2 RX RESULT REPORT

Function	<ul style="list-style-type: none"> <li>The [SESSION], [FUNCTION], [NO.], [DESTINATION STATION], [DATE], [TIME], [PAGE], [DURATION], [MODE], and [RESULT] are printed.</li> </ul>
Use	

### 11.5.3 ACTIVITY REPORT

Function	<ul style="list-style-type: none"> <li>The [NO.], [SESSION], [DATE], [TIME], [TX/RX], [DESTINATION STATION], [PAGE], [DURATION], [MODE], and [RESULT] are printed.</li> </ul>
Use	

### 11.5.4 MEMORY DATA LIST

Function	<ul style="list-style-type: none"> <li>This is a list of documents waiting to be sent, and documents specified for timer transmission.</li> </ul>
Use	<ul style="list-style-type: none"> <li>The [SESSION], [FUNCTION], [TIME], [NO.], [DESTINATION STATION], and [PAGE] are printed.</li> </ul>

### 11.5.5 MEMORY IMAGE PRINT

Function	<ul style="list-style-type: none"> <li>A reduced image of the first page of the document waiting to be sent in addition to the [SESSION], [FUNCTION], [NO.], [DESTINATION STATION], [DATE], [TIME], and [PAGE] are printed.</li> </ul>
Use	

### 11.5.6 FAVORITE LIST

Function	<ul style="list-style-type: none"> <li>The destinations registered in the favorite list are printed in the order that they appear in the favorite list.</li> </ul>
Use	

**11.5.7 SPEED DIAL LIST**

Function	<ul style="list-style-type: none"> <li>The recipients programmed for the speed dial numbers are printed in numerical order.</li> </ul>
Use	

**11.5.8 GROUP DIAL LIST**

Function	<ul style="list-style-type: none"> <li>The group dialing settings specified for one-touch dial keys are printed in numerical order of the keys.</li> </ul>
Use	

**11.5.9 UTILITY MAP**

Function	<ul style="list-style-type: none"> <li>Prints the current machine setting.</li> </ul>
Use	

**11.5.10 CONFIGURATION PAGE**

Function	<ul style="list-style-type: none"> <li>Prints the current machine configuration.</li> </ul>
Use	<p>It is used to confirm the following settings.</p> <ul style="list-style-type: none"> <li>Supplies Status</li> <li>Coverage Information</li> <li>Counter</li> <li>Paper</li> <li>Machine Setting</li> <li>Network Setting</li> <li>Firmware Version</li> <li>Options</li> <li>Fax Setting</li> <li>Fax Maintenance</li> </ul>

#### A. Sample of Configuration Page (for magicolor 1680MF)

Product Name: KONICA MINOLTA magicolor 1680MF

Configuration Page

```

- Supplies Status -           Status           Remaining %           Cartridge Type

Toner Cartridge Cyan         Empty           0%           Standard
Toner Cartridge Magenta      Low            4%           Standard
Toner Cartridge Yellow       Ready          88%          High Capacity
Toner Cartridge Black        Ready          90%          High Capacity
Image Cartridge              Ready          80%

- Coverage Information -      Normalization: All sizes converted to A4 equivalent.
Normalized Total Faces Counter      Normalized Coverage Information
Color Faces Printed      xxxxxx      Color Average %      xxxxxx      Monochrome Average % xxxxxx
Total                    xxxxxx      Normalized Coverage Information
                                   <Color Faces>      <Current Toner Cartridge> <Last Job>
Normalized Total Faces Coverage
Copy                    xxxx      Copy      xxxxxx      Average % C      xxxxxx      Average % C      xxxxxx
Printer               xxxx      Printer   xxxxxx      Average % M      xxxxxx      Average % M      xxxxxx
                                   <Monochrome Faces>
Copy                    xxxxxx      Average % Y      xxxxxx      Average % Y      xxxxxx
                                   Average % K      xxxxxx      Average % K      xxxxxx

- Counter -
Total Faces Counter:      xxxxxx      Scan Counter      xxxxxx
Color Faces Counter      xxxxxx      Sheets Printed by Paper tray
Copy                    xxxxxx      Tray              xxxxxx
Printer               xxxxxx
Monochrome Faces Counter
Copy                    xxxxxx
Printer               xxxxxx

- Paper-
Sheets Printed by Paper Size      Sheets Printed by Paper Type
A4      xxxxxx      Plain Paper      xxxxxx      Letterhead      xxxxxx
B5(JIS) xxxxxx      Thick1           xxxxxx      Postcard        xxxxxx
A5      xxxxxx      Thick2           xxxxxx      Label           xxxxxx
Legal   xxxxxx      Envelope         xxxxxx
Letter  xxxxxx
Others  xxxxxx

- Machine Setting -           - Firmware Version -
Serial Number      xxxxxxxxxxxxxxxx      Engine      4139-5062-0900
Auto Panel Reset(min)      1      Boot Code      2007/07/16 V0.03
Energy Save Mode(min)      15      Controller     V011
Language      ENGLISH
Auto Continue      ON
Toner Empty Stop      ON

0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/
0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/ 0/

```

magicolor 1680MF  
magicolor 1690MF

## ADJUSTMENT/SETTING

### B. Sample of Configuration Page (for magicolor 1690MF)

Product Name:KONICA MINOLTA magicolor 1690MF

## Configuration Page

DATE: 24. NOV. 2008 03:59

- Supplies Status -

### Status

Remaining %

Cartridge Type

Toner Cartridge Cyan  
Toner Cartridge Magenta  
Toner Cartridge Yellow  
Toner Cartridge Black  
Image Cartridge

Empty  
Low  
Ready  
Ready  
Ready

0%  
4%  
88%  
90%  
80%

Standard  
Standard  
High Capacity  
High Capacity

- Coverage Information - Normalization: All sizes converted to A4 equivalent.

Coverage Information	Normalized
Total Faces Printed	Counter
Color Faces Printed	xxxxxx
Monochrome Faces Printed	xxxxxx
Total	xxxxxx

Normalized Coverage Information

Monochrome Faces Printed	x
Total	x
Normalized Total Faces Coverage	
Copy	xxxx
Printer	xxxx

Normalized Coverage Information					
<Color Faces>		<Current Toner>	<Cartridge>	<Last Job>	
Copy xxxxxx	Average	% C xxxxxx	Average	% C xxxxxx	
Printer xxxxxx	Average	% M xxxxxx	Average	% M xxxxxx	
<Monochrome Faces>	Average	% Y xxxxxx	Average	% Y xxxxxx	
Copy xxxxxx	Average	% K xxxxxx	Average	% K xxxxxx	
Fax xxxxxx					

- Counter -

```

Counter -
Total Faces Counter:      xxxxxx
Color Faces Counter
Copy                      xxxxxx
Printer                  xxxxxx
Monochrome Faces Counter
Copy                      xxxxxx
Printer                  xxxxxx
Fax                      xxxxxx

```

```
total Duplex Counter:      xxxxxx
Color Sheets Counter
    Copy                   xxxxxx
    Printer                 xxxxxx
Monochrome Sheets Counter
    Copy                   xxxxxx
    Printer                 xxxxxx
```

```

Fax Counter
TX Counter      xxxxxx
RX Counter      xxxxxx
Scan Counter     xxxxxx
Sheets Printed by Paper tray
Tray1           xxxxxx
Tray2           xxxxxx

```

- Paper-

Paper- Sheets Printed by Paper Size	
A4	xxxxxx
B5(JIS)	xxxxxx
A5	xxxxxx
Legal	xxxxxx
Letter	xxxxxx
Others	xxxxxx

### Sheets Printed by Paper Type

Plain Paper	xxxxxxx
Thick1	xxxxxxx
Thick2	xxxxxxx
Envelope	xxxxxxx

Letterhead	xxxxxx
Postcard	xxxxxx
Label	xxxxxx

- Machine Setting -

Serial Number	XXXXXXXXXXXX
Auto Panel Reset(min)	1
Energy Save Mode(min)	15
Language	ENGLISH
Auto Continue	ON
Toner Out Stop	OFF

- Network Setting -

```

Network Interface Ethernet 10Base T/100Base TX
Host Name mcxxxxMF xxxxxxxx
Bonjour Discovery ENABLE
DHCP ENABLE
BOOTP DISABLE
HTTP ENABLE
SNMP ENABLE
IP Address 172.18.17.251
Subnet Mask 255.255.255.0
Gateway Address 172.16.0.1
MAC Address 00:20:6B:CB:A4:F0

```

- Firmware Version -

Engine	4139-50G2-0900
Boot Code	2007/07/16 V0.03
Controller	V1.1

- Options -

Tray2	Not Installed
Duplex	Installed

- Fax Setting -

Fax Number	xxxxxxxxxxxxxxxxxxxx
Tone/Pulse	Tone
No. Of Rings	2
Header	ON
Def. Res	STD/TEXT
Def. Bright	0
Line Monitor	LOW
Def. Tx Report	ON
Def. Rx Report	OFF
Footer	OFF

- Fax Maintenance -

TX Speed	33.6 kbps
RX Speed	33.6 kbps
TX Level	-9 dBm
RX Level	-43 dBm
DTMF Level	-9 dBm
CNG Level	-11 dBm
CED Level	-11 dBm
ECM Mode	ON
Coding scheme	JBIG
Toner Empty Report	OFF
Protocol	OFF

[illegible]

A0HFF3E500DA

### C. Supplies Status

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

Types of toner cartridges	
Starter	Starter-capacity toner cartridge: 1.0 K
Standard	Standard-capacity toner cartridge: 1.5 K
High	High-capacity toner cartridge: 2.5 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.**

### D. Coverage Information

- The total number of pages that have been printed is counted and displayed based on the description shown in the following table.

Types of count	Count condition
Color Faces Printed	<ul style="list-style-type: none"> <li>• 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</li> </ul>
Monochrome Faces Printed	<ul style="list-style-type: none"> <li>• 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</li> </ul>
Total	<ul style="list-style-type: none"> <li>• Total count of the above printed pages in color and monochrome</li> </ul>

### E. 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
Display	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/	0/
No.	15													
Display	8B01/													
No.	16	17	18	19	20	21	22	23	24	25				
Display	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
3		Number of times a High-capacity toner cartridge (C) has been replaced
4		Number of times a Standard-capacity toner cartridge (C) has been replaced
5		Number of times a High-capacity toner cartridge (M) has been replaced
6		Number of times a Standard-capacity toner cartridge (M) has been replaced
7		Number of times a High-capacity toner cartridge (Y) has been replaced

No.		Contents
8	Replace	Number of times a Standard-capacity toner cartridge (Y) has been replaced
9		Rate of transfer roller remaining (%)
10		Number of times a transfer roller has been replaced
11		Rate of fusing unit remaining (%)
12		Number of times a fusing unit has been replaced
13		Imaging cartridge consumption
14		Number of times a imaging cartridge has been replaced
15	Machine setting date	Year (e.g. The year 2008 is displayed as 8.)
		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.)
16	Application counter	Copy print
17		Fax Reception print
18		Report output print
19		PC Print
20		Fax Transmitting pages
21		Scan to E-mail
22		Scan to FTP
23		Scan to SMB
24		Scan to USB
25		Twain

### 11.5.11 DEMO PAGE

Function	<ul style="list-style-type: none"> <li>Prints the demo page.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li>Displayed only on magicolor 1690MF</li> <li>Demo page only print from Tray1.</li> </ul>

# 12. UTILITY mode

## 12.1 UTILITY mode function tree

- A menu is display by select [UTILITY] item on the standby mode.

### NOTE

- <\*1>: Displayed only on magicolor 1690MF
- <\*2>: Displayed only when the duplex unit is installed

UTILITY mode			Ref. page		
MACHINE SETTING	AUTO PANEL RESET		P.89		
	ENERGY SAVE MODE		P.89		
	LCD CONTRAST		P.89		
	KEY SPEED	TIME TO START	P.89		
		INTERVAL	P.89		
	LANGUAGE		P.90		
	BUZZER VOLUME <*1>		P.90		
	INITIAL MODE <*1>		P.90		
	TONER OUT STOP		P.90		
	TONER LOW		P.90		
	AUTO CONTINUE		P.91		
	IMAGE REFRESH		P.91		
	DUPLEX SPEED <*1> <*2>		P.91		
	CALIBRATION		P.91		
TRAY1 PAPER SETUP	PLAIN PAPER		P.92		
	LETTERHEAD				
	THICK 1				
	THICK 2				
	LABELS				
	ENVELOPE				
	POSTCARD				
ADMIN. MANAGEMENT	ADMINISTRATOR NO.		P.93		
	REMOTE MONITOR <*1>		P.93		
	NETWORKSETTING <*1>	TCP/IP <*1>		P.93	
		IP ADDR. SETTING <*1>		P.93	
			SUBNET MASK <*1>		P.94
			GATEWAY <*1>		P.94
		DNS CONFIG. <*1>		P.94	
		DHCP <*1>		P.95	
		BOOTP <*1>		P.95	
		ARP/PING <*1>		P.95	
		HTTP <*1>		P.95	
		FTP <*1>		P.95	
		SMB <*1>		P.96	

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ADJUSTMENT/SETTING

UTILITY mode			Ref. page		
		BONJOUR <*1>	P.96		
		IPP	P.96		
		SLP <*1>	P.96		
		SNMP <*1>	P.96		
		SPEED/DUPLEX <*1>	P.96		
	E-MAIL SETTING <*1>	SMTP <*1>	P.97		
		SENDER NAME <*1>		P.97	
		E-MAIL ADDRESS <*1>		P.97	
		DEFAULT SUBJECT <*1>		P.97	
		SMTP SERVER ADDR. <*1>		P.97	
		SMTP PORT NO. <*1>		P.97	
		SMTP TIMEOUT <*1>		P.98	
		TEXT INSERT <*1>		P.98	
		POP BEFORE SMTP <*1>	DISABLE/ ENABLE <*1>	P.98	
			POP3 SERV- ERADDR. <*1>	P.98	
			POP3 PORT NO. <*1>	P.98	
			POP3 TIMEOUT *1	P.99	
			POP3 ACCOUNT <*1>	P.99	
			POP3 PASSWORD <*1>	P.99	
		SMTP AUTH. <*1>	DISABLE/ ENABLE <*1>	P.99	
			SMTP USER NAME <*1>	P.99	
			SMTP PASSWORD <*1>	P.99	
		LDAP SETTING <*1>	DISABLE/ENABLE <*1>		P.100
			LDAP SERVER ADDR. <*1>		P.100
			LDAP PORT NO. <*1>		P.100
	SSL SETTING <*1>		P.100		
	SEARCH BASE <*1>		P.100		
	ATTRIBUTE <*1>		P.100		
	SEARCH METHOD <*1>		P.101		
	LDAP TIMEOUT <*1>		P.101		
	MAX. SEARCH RESULTS <*1>		P.101		
	AUTHENTICATION METHOD <*1>		P.101		
	LDAP ACCOUNT <*1>		P.101		
	LDAP PASSWORD <*1>		P.102		
	DOMAIN NAME <*1>		P.102		

UTILITY mode		Ref. page
	USB SETTING <*1>	P.102
	COMM. SETTING <*1>	TONE/PULSE <*1>
		LINE MONITOR VOLUME <*1>
		PSTN/PBX <*1>
	USER SETTING	PTT SETTING <*1>
		DATE&TIME <*1>
		DATE FORMAT <*1>
		PRESET ZOOM
		USER FAX NUMBER <*1>
		USER NAME <*1>
COPY SETTING	AUTO REDIAL <*1>	NUMBER OF REDIAL <*1>
		INTERVAL <*1>
	PAPER PRIORITY <*1>	P.105
	QUALITY PRIORITY	P.105
	DENSITY PRIORITY	P.105
	DENSITY LEVEL	AUTO
		MANUAL
	OUTPUT PRIORITY <*1>	P.106
DIAL REGISTER <*1>	DUPLEX COPY <*1>	P.106
	FAVORITE <*1>	P.106
	SPEED DIAL <*1>	P.106
FAX TX OPERATION <*1>	GROUP DIAL <*1>	P.106
	DENSITY LEVEL <*1>	P.107
	QUALITY PRIORITY <*1>	P.107
	DEFAULT TX <*1>	P.107
FAX RX OPERATION <*1>	HEADER <*1>	P.108
	MEMORY RX MODE <*1>	P.109
	NO. of RINGS <*1>	P.109
	REDUCTION RX <*1>	P.109
	RX PRINT <*1>	P.114
	RX MODE <*1>	P.114
	FORWARD <*1>	P.115
	FOOTER <*1>	P.115
REPORTING <*1>	SELECT TRAY <*1>	P.116
	ACTIVITY REPORT <*1>	P.116
	TX RESULT REPORT <*1>	P.116
	RX RESULT REPORT <*1>	P.116

UTILITY mode		Ref. page
SCAN SETTING <*1>	RESOLUTION <*1>	<a href="#">P.117</a>
	IMAGE FORMAT <*1>	<a href="#">P.117</a>
	CODING METHOD <*1>	<a href="#">P.117</a>
	FILE SIZE <*1>	<a href="#">P.117</a>
	QUALITY PRIORITY <*1>	<a href="#">P.117</a>
	DENSITY LEVEL <*1>	<a href="#">P.118</a>

## 12.2 MACHINE SETTING


### 12.2.1 AUTO PANEL RESET

Function	<ul style="list-style-type: none"> <li>Sets the period of time after which the initial screen reappears after the last print job is received or the last panel key is operated.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the period of time by executing auto panel reset.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 1min.</li> </ul> <p style="text-align: right;">OFF / 30sec / "1min" / 2min / 3min / 4min / 5min</p>

### 12.2.2 ENERGY SAVE MODE

Function	<ul style="list-style-type: none"> <li>To specify the time until the machine enters energy save mode after a copy cycle has been completed or after the last key operation.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 30 min.</li> </ul> <p style="text-align: right;">5min / 15min / "30min" / 60min</p>

### 12.2.3 LCD CONTRAST

Function	<ul style="list-style-type: none"> <li>Sets the brightness of the LCD display.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the brightness of the LCD display.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is  .</li> </ul> <p style="text-align: right;">(LIGHT) -1 / "0" / +1 / +2 (DARK)</p>

### 12.2.4 KEY SPEED

#### A. TIME TO START

Function	<ul style="list-style-type: none"> <li>To specify the length of time until the cursor begins to move continuously when a key is held down.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 1.0sec.</li> </ul> <p style="text-align: right;">0.1sec / 0.3sec / 0.5sec / "1.0sec" / 1.5sec / 2.0sec / 2.5sec / 3.0sec</p>

#### B. INTERVAL

Function	<ul style="list-style-type: none"> <li>To specify the length of time until the cursor continuously moves between settings or characters.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 0.1sec.</li> </ul> <p style="text-align: right;">"0.1sec" / 0.3sec / 0.5sec / 1.0sec / 1.5sec / 2.0sec / 2.5sec / 3.0sec</p>

**12.2.5 LANGUAGE**

Function	<ul style="list-style-type: none"> <li>Sets the language of the control panel display.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the language of the control panel display.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENGLISH.</li> </ul> <p>“ENGLISH” / FRENCH / GERMAN / ITALIAN / SPANISH / PORTUGUESE RUSSIAN / CZECH / SLOVAK / HUNGARIAN / POLISH / JAPANESE</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>The default setting of language is subject to the setting of [PTT SETTING].</li> </ul>

**12.2.6 BUZZER VOLUME**

Function	<ul style="list-style-type: none"> <li>To set the volume of alarms and the beep sounded when a key is pressed.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is LOW.</li> </ul> <p>OFF / “LOW” / HIGH</p>

**12.2.7 INITIAL MODE**

Function	<ul style="list-style-type: none"> <li>To set the mode (Copy mode or Fax mode) that the machine starts up in or returns to after the Control Panel is reset.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is COPY.</li> </ul> <p>“COPY” / FAX</p>

**12.2.8 TONER OUT STOP**

Function	<ul style="list-style-type: none"> <li>Specifies whether to stop or continue printing when a toner empty condition is detected.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To permit printing upon a toner empty condition.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON.</li> </ul> <p>magicolor 1680MF: “ON” / OFF magicolor 1690MF: “ON” / OFF</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>If [ON] is selected, printing, copying and faxing stop when the toner runs out.</li> </ul>

**12.2.9 TONER LOW**

Function	<ul style="list-style-type: none"> <li>To set whether to display a message when a toner near empty state is detected.</li> </ul>
Use	<ul style="list-style-type: none"> <li>Use this setting to display a message when a toner near empty state is detected.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON.</li> </ul> <p>“ON” / OFF</p>

**12.2.10 AUTO CONTINUE**

Function	<ul style="list-style-type: none"> <li>Select whether or not printing continues when a size error occurs during printing.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [OFF] is selected, an error occurs if the size of paper being printed on is different from the size of paper specified in the printer driver.</li> <li>If [ON] is selected, no error occurs if the size of paper being printed on is different from the size of paper specified in the printer driver.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: right;">ON / "OFF"</p>

**12.2.11 IMAGE REFRESH**

Function	<ul style="list-style-type: none"> <li>Use this function to perform aging of the toner cartridge, thereby making less noticeable the faint lines extending in parallel with the main scanning direction occurring at a pitch of 24 mm.</li> </ul>
Use	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Execution of the image refresh mode consumes toner.</b></li> <li><b>This function does not help uneven density at a pitch of 25 mm.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: right;">ON / "OFF"</p>

**12.2.12 DUPLEX SPEED**

Function	<ul style="list-style-type: none"> <li>To set print speed and image quality for duplex printing.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If AUTOMATIC is selected, the print speed is automatically selected.</li> <li>If SPEED is selected, the print speed has priority; however, the print quality may decrease.</li> <li>If QUALITY is selected, the print quality has priority; therefore, the print speed will decrease while the print quality may increase.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is AUTOMATIC.</li> </ul> <p style="text-align: right;">"AUTOMATIC" / SPEED / QUALITY</p>

**12.2.13 CALIBRATION**

Function	<ul style="list-style-type: none"> <li>Executes the image stabilization sequence.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To calibrate the engine when there are print image quality problems.</li> <li>To calibrate the engine when the imaging cartridge and 2nd transfer roller are replaced with new ones.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: right;">ON / "OFF"</p> <ol style="list-style-type: none"> <li>Select [MACHINE SETTING] and then [CALIBRATION], and press the Select key.</li> <li>Select [ON] and press the Select key.</li> <li>Image stabilization is executed.</li> </ol>

12.3 TRAY1 PAPER SETUP

Function	<ul style="list-style-type: none"><li>• Sets the type and size of the paper loaded in tray1.</li></ul>
Use	<ul style="list-style-type: none"><li>• When the type and size of the paper loaded in tray1 have been changed</li><li>• The default setting varies according to the voltage of the printer.</li></ul>
Setting/ procedure	<p><b>TRAY1 PAPER TYPE</b></p> <ul style="list-style-type: none"><li>• The default setting is PLAIN PAPER.</li></ul> <p>“PLAIN PAPER” / LETTERHEAD / THICK 1 / THICK 2 / LABELS / ENVELOPE / POSTCARD</p> <p><b>TRAY1 PAPER SIZE</b></p> <ul style="list-style-type: none"><li>• Default setting of paper size depend on the marketing area setting. USA and Canada: “LETTER”, Other country: “A4”</li></ul> <p>&lt;PLAIN PAPER&gt; “A4” / B5 / A5 / LEGAL / “LETTER” / G LETTER / STATEMENT / EXECUTIVE / FOLIO / OFICIO / G LEGAL / CUSTOM(PLAIN)</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• If [CUSTOM (PLAIN)] is selected as the paper size, specify settings for LENGTH (195 to 356 mm) and WIDTH (92 to 216 mm) separately.</li></ul> <p>&lt;LETTERHEAD&gt; “A4” / B5 / A5 / “LETTER” / G LETTER / STATEMENT / EXECUTIVE</p> <p>&lt;THICK 1, THICK 2&gt; “A4” / B5 / A5 / “LETTER” / G LETTER / STATEMENT / EXECUTIVE / CUSTOM(THICK)</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• If [CUSTOM (THICK)] is selected as the paper size, specify settings for LENGTH (184 to 294 mm) and WIDTH (92 to 216 mm) separately.</li></ul> <p>&lt;LABELS&gt; “A4” / B5 / A5 / “LETTER” / G LETTER / STATEMENT / EXECUTIVE</p> <p>&lt;ENVELOPE&gt; “C6” / DL</p> <p>&lt;POSTCARD&gt; “J-POSTCARD”</p>

## 12.4 ADMIN. MANAGEMENT

- The ADMIN. MANAGEMENT menu is accessible only by the administrator.  
To display the settings for this menu, select [ADMIN. MANAGEMENT], use the keypad to type in the 6-digit administrator access code, and then press the Select key.

### 12.4.1 ADMINISTRATOR NO.

Function	<ul style="list-style-type: none"> <li>Use to change the ADMINISTRATOR NO.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 000000.</li> <li>1. Select [ADMINISTRATOR NO.] and press the Select key.</li> <li>2. Enter the existing 6-digit administrator number and press the Select key.</li> <li>3. Enter the new 6-digit administrator number and press the Select key.</li> </ul>

### 12.4.2 REMOTE MONITOR

Function	<ul style="list-style-type: none"> <li>Set if the phone line connection is to be enabled for Remote Setup Utility.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: right;">"OFF" / ON</p>

### 12.4.3 NETWORK SETTING

#### A. TCP/IP

Function	<ul style="list-style-type: none"> <li>Enables TCP/IP</li> </ul>
Use	<ul style="list-style-type: none"> <li>To specify that the printer is connected to a TCP/IP network. ENABLE: Print can be made at TCP/IP environment. DISABLE: Print cannot be made at TCP/IP environment.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

#### B. IP ADDR. SETTING

Function	<ul style="list-style-type: none"> <li>Sets the IP address of the printer used for the network.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the printer's IP address.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is AUTO.</li> </ul> <p style="text-align: right;">"AUTO" / SPECIFY</p> <ul style="list-style-type: none"> <li>If AUTO is selected, the IP address is automatically acquired from the DHCP server.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>AUTO is only enabled if there is a DHCP server available on the network.</b></li> <li><b>When AUTO is selected, there is no need to set the SUBNET MASK or GATEWAY setting.</b></li> <li>If SPECIFY is selected, the screen for entering the IP address appears.</li> </ul>

**(1) SUBNET MASK**

Function	<ul style="list-style-type: none"> <li>This function is used to specify the subnet mask value for the network.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the subnet mask to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>Setting LAN connect to WAN the net mask address.</li> </ul> <b>NOTE</b> <ul style="list-style-type: none"> <li><b>If Auto is selected for [IP ADDR. SETTING], the items of [SUBNET MASK] and [GATEWAY] are automatically set. Key entry is therefore disabled for [SUBNET MASK] and [GATEWAY].</b></li> </ul>

**(2) GATEWAY**

Function	<ul style="list-style-type: none"> <li>This function is used to specify the default gateway (IP address) of a router on the network.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the gateway to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>Setting LAN address.</li> </ul> <b>NOTE</b> <ul style="list-style-type: none"> <li><b>If Auto is selected for [IP ADDR. SETTING], the items of [SUBNET MASK] and [GATEWAY] are automatically set. Key entry is therefore disabled for [SUBNET MASK] and [GATEWAY].</b></li> </ul>

**C. DNS CONFIG.**

Function	<ul style="list-style-type: none"> <li>Sets whether or not the DNS server setting is to be specified.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If specifying the DNS server setting, the SMTP server can be specified as a host name when using network scanning.</li> <li>If [ENABLE] is selected, type in the IP address of the DNS server.</li> <li>If [DISABLE] is selected, the DNS server cannot be referenced.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is DISABLE.</li> </ul> <p style="text-align: center;">"DISABLE" / ENABLE</p>

**(1) ENABLE**

Function	<ul style="list-style-type: none"> <li>Sets the DNS server address (up to three addresses).</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 0.0.0.0.</li> </ul> <p style="text-align: center;">DNS1 / DNS2 / DNS3</p>

**D. DHCP**

Function	<ul style="list-style-type: none"> <li>Automatically acquires an IP address from the DHCP server, if there is one in the network, and specifies whether to load other network information.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To automatically acquire an IP address and load other network information.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: center;">DISABLE / "ENABLE"</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When setting the IP address manually, the [DHCP] setting is changed to [DISABLE].</b></li> </ul>

**E. BOOTP**

Function	<ul style="list-style-type: none"> <li>Automatically acquires an IP address from BOOTP and specifies whether to load other network information.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To automatically acquire an IP address and load other network information.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is DISABLE.</li> </ul> <p style="text-align: center;">"DISABLE" / ENABLE</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When setting the IP address manually, the [BOOTP] setting is changed to [DISABLE].</b></li> </ul>

**F. ARP/PING**

Function	<ul style="list-style-type: none"> <li>Automatically acquires an IP address from ARP/PING and specifies whether to load other network information.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To automatically acquire an IP address and load other network information.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is DISABLE.</li> </ul> <p style="text-align: center;">"DISABLE" / ENABLE</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When setting the IP address manually, the [ARP/PING] setting is changed to [DISABLE].</b></li> </ul>

**G. HTTP**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable HTTP.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, HTTP is enabled.</li> <li>If [DISABLE] is selected, HTTP is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: center;">DISABLE / "ENABLE"</p>

**H. FTP**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable the FTP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, FTP server is enabled.</li> <li>If [DISABLE] is selected, FTP server is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: center;">DISABLE / "ENABLE"</p>

**I. SMB**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable SMB.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, SMB is enabled.</li> <li>If [DISABLE] is selected, SMB is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

**J. BONJOUR**

Function	<ul style="list-style-type: none"> <li>Select whether or not to use the bonjour setting.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use when operating under the bonjour service environment.</li> <li>If [ENABLE] is selected, Bonjour is enabled.</li> <li>If [DISABLE] is selected, Bonjour is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

**K. IPP**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable IPP.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, IPP is enabled.</li> <li>If [DISABLE] is selected, IPP is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

**L. SLP**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable SLP.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, SLP is enabled.</li> <li>If [DISABLE] is selected, SLP is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

**M. SNMP**

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable SNMP.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, SNMP is enabled.</li> <li>If [DISABLE] is selected, SNMP is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: right;">DISABLE / "ENABLE"</p>

**N. SPEED/DUPLEX**

Function	<ul style="list-style-type: none"> <li>Sets the communication speed and method of network.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the network communication speed and method.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is AUTO.</li> </ul> <p style="text-align: right;">"AUTO" / 10BASE-T FULL / 10BASE-T HALF / 100BASE-TX FULL / 100BASE-TX HALF</p>

## 12.4.4 E-MAIL SETTING

### A. SMTP

Function	<ul style="list-style-type: none"> <li>Select whether or not to enable SMTP.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If [ENABLE] is selected, SMTP is enabled.</li> <li>If [DISABLE] is selected, SMTP is disabled.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: center;">DISABLE / "ENABLE"</p>

### B. SENDER NAME

Function	<ul style="list-style-type: none"> <li>This function is used to specify the sender's name.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is magicolor_1690MF.</li> <li>Up to 20 characters can be entered for the sender name.</li> </ul>

### C. E-MAIL ADDRESS

Function	<ul style="list-style-type: none"> <li>This function is used to specify the e-mail address of the sender.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the e-mail address to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>Up to 64 characters can be entered for the sender address.</li> <li>If customer does not receive e-mail on the copier, enter the e-mail address of the customer's administrator.</li> </ul>

### D. DEFAULT SUBJECT

Function	<ul style="list-style-type: none"> <li>This function is used to specify the default subject line, when sending scan data as an e-mail attachment.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is from mc1690MF.</li> <li>Up to 20 characters can be entered for the default subject.</li> </ul>

### E. SMTP SERVER ADDR.

Function	<ul style="list-style-type: none"> <li>This function is used to enter the IP address or host name of an SMTP server.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the IP address to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>Up to 64 characters can be entered for the host name.</li> <li>The DNS settings must have been specified before specifying the host name for the SMTP server.</li> </ul>

### F. SMTP PORT NO.

Function	<ul style="list-style-type: none"> <li>This function is used to enter the port number (1 to 65535) for the SMTP server.</li> </ul>
Use	<b>NOTE</b> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the port number to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The port number can be set between 1 and 65535.</li> <li>Normally, port number 25 is used.</li> </ul>

**G. SMTP TIMEOUT**

Function	<ul style="list-style-type: none"> <li>This function is used to specify the length of time (in seconds) before the connection to the SMTP server times out. (30 to 300 seconds)</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 60sec.</li> <li>The time out period can be between 30 and 300 seconds.</li> </ul>

**H. TEXT INSERT**

Function	<ul style="list-style-type: none"> <li>This function is used to specify whether or not to insert text explaining that an image has been attached to an e-mail message, when sending scan data as an E-mail attachment.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: center;">"OFF" / ON</p> <ul style="list-style-type: none"> <li>OFF: If OFF is selected, a blank e-mail message will be sent.</li> <li>ON: If ON is selected, the following text is inserted in the e-mail message.</li> </ul>

**I. POP BEFORE SMTP****(1) DISABLE/ENABLE**

Function	<ul style="list-style-type: none"> <li>This function is used to set whether or not to use POP before SMTP.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is DISABLE.</li> </ul> <p style="text-align: center;">"DISABLE" / ENABLE</p> <ul style="list-style-type: none"> <li>When [ENABLE] is selected, set the time (second) for POP BEFORE SMTP. The default setting is "5sec". (0 - 60sec)</li> </ul>

**(2) POP3 SERVER ADDR.**

Function	<ul style="list-style-type: none"> <li>This function is used to enter the IP address or host name of an POP3 server.</li> </ul>
Use	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the IP address to use.</b></li> <li><b>The [DNS] must have been specified before specifying the host name for the POP3 server.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>Up to 64 characters can be entered for the host name.</li> </ul>

**(3) POP3 PORT NO.**

Function	<ul style="list-style-type: none"> <li>This function is used to enter the port number for the POP3 server.</li> </ul>
Use	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Please consult customer's network administrator for information about the port number to use.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is "110". (1 - 65535)</li> </ul>

**(4) POP3 TIMEOUT**

Function	<ul style="list-style-type: none"><li>• This function is used to specify the length of time (in seconds) before the connection to the POP3 server times out.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is “30sec”. (30 - 300sec)</li></ul>

**(5) POP3 ACCOUNT**

Function	<ul style="list-style-type: none"><li>• This function is used to enter the account name used to log on to the POP3 server.</li></ul> <b>NOTE</b> <ul style="list-style-type: none"><li>• <b>Please consult customer's network administrator for information about the account name to use.</b></li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• Up to 64 characters can be entered for the account name.</li></ul>

**(6) POP3 PASSWORD**

Function	<ul style="list-style-type: none"><li>• This function is used to enter the password associated with the account name used to log in to the POP3 server.</li></ul> <b>NOTE</b> <ul style="list-style-type: none"><li>• <b>Please consult customer's network administrator for information about the password to use.</b></li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• Up to 32 characters can be entered for the password.</li></ul>

**J. SMTP AUTH.**

**(1) DISABLE/ENABLE**



Function	<ul style="list-style-type: none"><li>• If [ENABLE] is selected, SMTP Authentication is enabled.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is DISABLE.  “DISABLE” / ENABLE</li></ul>

**(2) SMTP USER NAME**

Function	<ul style="list-style-type: none"><li>• Type in the user name used for authentication with SMTP Authentication.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is Blank.</li><li>• Up to 63 characters can be entered for the SMTP user name.</li></ul>

**(3) SMTP PASSWORD**

Function	<ul style="list-style-type: none"><li>• Type in the password used for authentication with SMTP Authentication.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is Blank.</li><li>• Up to 15 characters can be entered for the password.</li></ul>



**12.4.5 LDAP SETTING****A. DISABLE/ENABLE**

Function	<ul style="list-style-type: none"> <li>This function is used to set whether or not to use LDAP.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ENABLE.</li> </ul> <p style="text-align: center;">DISABLE / "ENABLE"</p>

**B. LDAP SERVER ADDR.**

Function	<ul style="list-style-type: none"> <li>To set the LDAP server address.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To enter LDAP server address.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 0.0.0.0.</li> </ul> <ol style="list-style-type: none"> <li>1. Select the [LDAP SERVER ADDR.], then press Select key.</li> <li>2. Type in the IP address or host name for the LDAP server, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The host name can contain a maximum of 64 characters.</li> </ul>

**C. LDAP PORT NO.**

Function	<ul style="list-style-type: none"> <li>To set the LDAP server port number.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To enter the LDAP server port number.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>When SSL Setting is disable, the default value is 389.</li> <li>When SSL Setting is enable, the default value is 636.</li> </ul> <ol style="list-style-type: none"> <li>1. Select the [LDAP PORT NO.], then press Select key.</li> <li>2. Type in the port number (1 - 65535), then press Select key.</li> </ol>

**D. SSL SETTING**

Function	<ul style="list-style-type: none"> <li>To set whether to use SSL (data encryption) for connecting to LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use SSL (data encryption) for connecting to LDAP server.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is DISABLE.</li> </ul> <p style="text-align: center;">"DISABLE" / ENABLE</p>

**E. SEARCH BASE**

Function	<ul style="list-style-type: none"> <li>To set the directory path for LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To enter the directory path for LDAP server.</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Select the [SEARCH BASE], then press Select key.</li> <li>2. Specify the database where the LDAP server is searched, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The search base can contain a maximum of 64 characters.</li> </ul>

**F. ATTRIBUTE**

Function	<ul style="list-style-type: none"> <li>To set a search attribute that is used to search a destination from LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To enter a search attribute that is used to search a destination from LDAP server.</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Select the [ATTRIBUTE], then press Select key.</li> <li>2. Type in the attribute, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The attribute can contain a maximum of 32 characters.</li> </ul>

**G. SEARCH METHOD**

Function	<ul style="list-style-type: none"> <li>To set a search method that is used to search a destination.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change a search method that is used to search a destination.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is CONTAIN.</li> </ul> <p>BEGIN / "CONTAIN" / END</p>

**H. LDAP TIMEOUT**

Function	<ul style="list-style-type: none"> <li>To set the Max. time-out period for LDAP search.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the Max. time-out period for LDAP search.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 60 sec. (5 - 300 sec.)</li> </ul> <ol style="list-style-type: none"> <li>1. Select the [LDAP TIMEOUT], then press Select key.</li> <li>2. Type in the length of time (in seconds) until the LDAP search times out, then press Select key.</li> </ol>

**I. MAX. SEARCH RESULTS**

Function	<ul style="list-style-type: none"> <li>To set the Max. results of address for LDAP search.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the Max. results of address for LDAP search.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 100 (5 - 100)</li> </ul> <ol style="list-style-type: none"> <li>1. Select the [MAX. SEARCH RESULTS], then press Select key.</li> <li>2. Type in the maximum number of items, then press Select key.</li> </ol>

**J. AUTHENTICATION**

Function	<ul style="list-style-type: none"> <li>To set the authentication method to logon to LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the authentication method to logon to LDAP server.</li> </ul> <p>[ANONYMOUS]: User name and password are not necessary (Dynamic authentication will be invalid when anonymous is selected.)</p> <p>[SIMPLE]: Simple method which needs the user name and the password</p> <p>[DIGEST-MD5]: Method available with normal LDAP server. When failing to authenticate with Digest-MD5, it automatically switches to CRAMMD5.</p> <p>[GSS-SPNEGO]: Method available with Windows active directory (Kerberos authentication).</p>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ANONYMOUS.</li> </ul> <p>"ANONYMOUS" / SIMPLE / DIGEST-MD5 / GSS-SPNEGO</p>

**K. LDAP ACCOUNT**

Function	<ul style="list-style-type: none"> <li>To set the account name to connect to LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the account name to connect to LDAP server.</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Select the [LDAP ACCOUNT], then press Select key.</li> <li>2. Type in the account name for the LDAP server, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The account name can contain a maximum of 64 characters.</li> </ul>

**L. LDAP PASSWORD**

Function	<ul style="list-style-type: none"> <li>To set the password for connecting to LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the password for connecting to LDAP server.</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Select the [LDAP PASSWORD], then press Select key.</li> <li>2. Type in the password, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The password can contain a maximum of 32 characters.</li> </ul>

**M. DOMAIN NAME**

Function	<ul style="list-style-type: none"> <li>To set the domain name for connecting to LDAP server.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To set the domain name for connecting to LDAP server.</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Select the [DOMAIN NAME], then press Select key.</li> <li>2. Type in the domain name, then press Select key.</li> </ol> <ul style="list-style-type: none"> <li>The domain name can contain a maximum of 64 characters.</li> </ul>

**12.4.6 USB SETTING**

Function	<ul style="list-style-type: none"> <li>To set the operating system of the PC to which this machine is connected with a USB cable.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is Windows.</li> </ul> <p style="text-align: center;">"Windows" / Mac</p>

**12.4.7 COMM. SETTING****A. TONE/PULSE**

Function	<ul style="list-style-type: none"> <li>This function can be used to specify the dialing system. If this function is not correctly set to the type of dialing system used, faxes cannot be sent. Select the correct setting after checking which type of dialing system is used by your telephone line.</li> <li>There are two types of telephone dialing systems: tone dialing (PB) and pulse dialing (DP10pps or DP20pps). Faxes cannot be sent if this machine is not set to the system used by your telephone line. Select the correct setting after checking which type of dialing system is used.</li> </ul>
Use	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>If [PTT SETTING] in the [USER SETTING] menu is set to U.S.A, CANADA or NEW ZEALAND, the settings cannot be changed.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is TONE.</li> </ul> <p>"TONE": Tone line PULSE 10pps: Pulse line of 10 pps PULSE 20pps: Pulse line of 20 pps</p>

**B. LINE MONITOR**

Function	<ul style="list-style-type: none"> <li>This function can be used to set the volume when monitoring communication to [HIGH], [LOW] or [OFF].</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is LOW.</li> </ul> <p style="text-align: center;">OFF / "LOW" / HIGH</p>

### C. PSTN/PBX

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether the connected telephone wiring is a public switched telephone network (PSTN) or a private branch exchange (PBX). For a PBX system, the outside line access number (or extension number) must be specified.</li> </ul>
Use	<ul style="list-style-type: none"> <li>The connected wiring system can be set to either PSTN (Public Switched Telephone Network) or PBX (Private Branch Exchange). For a PBX system, the outside line access number (or extension number) must be specified. The outside line access number (or extension number) is programmed in the [#] key.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is PSTN.</li> </ul> <p>“PSTN”: Public Switched Telephone Network PBX: Private Branch Exchange</p>

## 12.4.8 USER SETTING

### A. PTT SETTING

Function	<ul style="list-style-type: none"> <li>Sets the country where this machine is installed.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the country where this machine is installed.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is USA.</li> </ul> <p>“U.S.A” / UNITED KINGDOM / VIETNAM / ARGENTINA / AUSTRALIA AUSTRIA / BELGIUM / BRAZIL / CANADA / CHINA / CZECH / DENMARK EUROPE / FINLAND / FRANCE / GERMANY / GREECE / HONG KONG HUNGARRY / IRELAND / ISRAEL / ITALY / KOREA / MALAYSIA / MEXICO THE NETHERLANDS / NEW ZEALAND / NORWAY / PHILIPPINES / POLAND PORTUGAL / RUSSIA / SAUDI ARABIA / SINGAPORE / SLOVAKIA / SOUTH AFRICA / SPAIN / SWEDEN / SWITZERLAND / TAIWAN / TURKEY</p> <p><b>NOTE</b> When this setting was changed, the following settings will return to their default automatically.</p> <ul style="list-style-type: none"> <li>[LANGUAGE]</li> <li>[PAPER SETUP]</li> <li>[DATE FORMAT]</li> <li>[PRESET ZOOM]</li> <li>[SOFT SWITCH]</li> </ul>

### B. DATE & TIME

Function	<ul style="list-style-type: none"> <li>Sets the date and time to be indicated on the output of print report.</li> </ul>
Use	<ul style="list-style-type: none"> <li>At the installation or when date and time need to be changed.</li> </ul>

### C. DATE FORMAT

Function	<ul style="list-style-type: none"> <li>Sets the format of the date to be indicated on the output of PRINT REPORT.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To change the format of the date to be indicated on the output of PRINT REPORT</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is MM/DD/YY.</li> </ul> <p>“MM/DD/YY” / DD/MM/YY / YY/MM/DD</p>

**D. PRESET ZOOM**

Function	• Sets the type of paper for fixed zoom ratio setting.
Use	• To change the type of paper for fixed zoom ratio setting
Setting/ procedure	• The default setting is "INCH" (for the inch areas) or "METRIC" (for the metric areas).  "INCH" / "METRIC"

**E. USER FAX NUMBER**

Function	• Enter user fax number.
Use	• The specified number is printed in the header of sent faxes.
Setting/ procedure	• Max. 20 digits. • The characters which can be inputted are "numbers from 0 to 9", "Space", "+", and "-."

**F. USER NAME**

Function	• The User Name is used for the indication of destination station at the time of the communication between same models.
Use	
Setting/ procedure	• Maximum 32 digits character can be inputted.

**12.4.9 AUTO REDIAL****A. NUMBER OF REDIAL**

Function	• To specify the number of times a redial is attempted if there is no answer, for example, when the line is busy.
Use	
Setting/ procedure	• 1 - 10 (Default: Depends on [PTT SETTING])

**B. INTERVAL**

Function	• To specify the interval between redial attempts.
Use	
Setting/ procedure	• 1 - 99 (Default: Depends on [PTT SETTING])

12.5 COPY SETTING

12.5.1 PAPER PRIORITY



Function	<ul style="list-style-type: none"><li>• Selects the priority tray.</li></ul>
Use	<ul style="list-style-type: none"><li>• To change the priority tray</li></ul>
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is TRAY1.  "TRAY1" / TRAY2</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• If Tray 2 is not installed, [TRAY1] and [TRAY2] does not appear.</li></ul>

12.5.2 QUALITY PRIORITY


Function	<ul style="list-style-type: none"><li>• To set the priority image quality mode that is selected when the power switch is turned ON.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is MIX.  "MIX" / TEXT / PHOTO / FINE/MIX / FINE/TEXT / FINE/PHOTO</li></ul>

12.5.3 DENSITY PRIORITY


Function	<ul style="list-style-type: none"><li>• To set the priority density that is selected when the power switch is turned ON</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is AUTO.  "AUTO" / MANUAL</li></ul>

12.5.4 DENSITY LEVEL

A. AUTO

Function	<ul style="list-style-type: none"><li>• To set the density level when the Auto density is selected.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is  .  (LIGHT) -1 / "0" / +1 (DARK)</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• Valid only if [TEXT] or [FINE/TEXT] is selected for [QUALITY PRIORITY]</li></ul>

B. MANUAL

Function	<ul style="list-style-type: none"><li>• To set the density level when the Manual density is selected.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is  .  (LIGHT) -3 / -2 / -1 / "0" / +1 / +2 / +3 (DARK)</li></ul>



### 12.5.5 OUTPUT PRIORITY

Function	<ul style="list-style-type: none"> <li>To set the priority finishing function, either non-sort, sort, or group.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is NON-SORT.</li> </ul> <p style="text-align: center;">“NON-SORT” / SORT</p>

### 12.5.6 DUPLEX COPY

Function	<ul style="list-style-type: none"> <li>When conditions necessary for crisscross sorting are met, crisscross sorting can be set to OFF, LONG EDGE or SHORT EDGE.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: center;">“OFF” / LONG EDGE / SHORT EDGE</p>

## 12.6 DIAL REGISTER

### 12.6.1 FAVORITE

Function	<ul style="list-style-type: none"> <li>Frequently used speed dial and group dial destinations (maximum of 20) can be registered on the favorite list to allow the fax number to quickly be recalled.</li> </ul>
Use	
Setting/ procedure	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Before registering destinations in the favorite list, register them as [SPEED DIAL] or [GROUP DIAL] destinations.</b></li> </ul> <p>1. Press the Address Book key, and then press the ▲ and ▼ key to quickly select the desired destination.</p>

### 12.6.2 SPEED DIAL


Function	<ul style="list-style-type: none"> <li>Frequently specified fax numbers (maximum of 220) can be registered as speed dial destinations. In addition, batch transmission settings can be specified.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The contents of registration.</li> <li>Destination name: 20 characters.</li> <li>Dial No.: 30 digits.</li> <li>E-mail address: 64 characters.</li> <li>Registered data: Automatically.</li> </ul>

### 12.6.3 GROUP DIAL

Function	<ul style="list-style-type: none"> <li>Fax numbers frequently specified for broadcast transmission can be registered as a group dial destination. A maximum of 50 destinations can be registered together as one group.</li> </ul>
Use	
Setting/ procedure	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Before registering a group dial destination, register the destinations as [SPEED DIAL] destinations.</b></li> </ul> <ul style="list-style-type: none"> <li>The contents of registration.</li> <li>Group name: 20 characters.</li> <li>Information of destination station: The contents of speed dial.</li> </ul>

# 12.7 FAX TX OPERATION

## 12.7.1 DENSITY LEVEL

Function	<ul style="list-style-type: none"> <li>This function can be used to set the default scanning contrast level to one of three settings between [LIGHT] and [DARK].</li> </ul>
Use	<ul style="list-style-type: none"> <li>For dark-colored paper (media), select a setting towards [LIGHT]. For faint or colored text, select a setting toward [DARK].</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is  . (LIGHT) -1 / "0" / +1 (DARK)</li> </ul>

## 12.7.2 QUALITY PRIORITY

Function	<ul style="list-style-type: none"> <li>This function can be used to set the default scanning resolution (image quality) to one of the following.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is STD/TEXT. "STD/TEXT" / FINE/TEXT / S-FINE/TEXT / STD/PHOTO / FINE/PHOTO S-FINE/PHOTO</li> </ul>

## 12.7.3 DEFULT TX

Function	<ul style="list-style-type: none"> <li>This function can be used to set the default of TX mode.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is MEMORY TX. "MEMORY TX" / DIRECT TX</li> </ul>

12.7.4 HEADER

Function	<ul style="list-style-type: none"><li>This function can be used to set the default setting (ON or OFF) for adding the header (date sent, sender's name and fax number, etc.) when sending faxes.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>The default setting is ON. "ON": Add header OFF: No header</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>If [PTT SETTING] in the [USER SETTING] menu is set to U.S.A, CANADA, or KOREA, this setting cannot be changed.</li></ul> <p>The contents of registration.</p> <ul style="list-style-type: none"><li>TX data and time.</li><li>Transmitter's own name.</li><li>Transmitter's own tel number.</li><li>Session number.</li><li>Page number.</li><li>Total page number (only displayed by use the memory TX job).</li></ul> <p>It is selectable by soft switch to transmit only pages which have failed to transmit, if communication error occurs on the way transmitting document. In this case, page number on Header Print is continued from the page number of the document successfully transmitted. Whether user setting is allowed or not is selectable with Soft switch.</p> <p>Attaching Header Print:</p> <ul style="list-style-type: none"><li>Image within 4 mm (1/4 in.) top margin of transmitting document is not transmitted and Header print data is attached.</li></ul>

## 12.8 FAX RX OPERATION

### 12.8.1 MEMORY RX MODE

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether to allow [ON] memory reception or not [OFF].</li> </ul>
Use	<p>In cases when confidential faxes are being received, the received document can be stored in the memory and printed at a specified time or when memory reception is set to [OFF]. A password can be set to specify the starting time or ending time of memory reception, or to cancel the function. The set starting time and ending time are valid every day until memory reception is turned off.</p>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF. ON: Enable memory RX mode "OFF": Disable memory RX mode</li> </ul>

### 12.8.2 NO. of RINGS

Function	<ul style="list-style-type: none"> <li>This function can be used to set the number of rings between 1 and 16 until the call is answered.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>Default: Depends on [PTT SETTING].</li> <li>Depend on soft switch setting of marketing area.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When PTT setting is New Zealand, the setting range is 7-10.</b></li> </ul> <p>1: 1 time    "2": 2 times    3: 3 times    4: 4 times    5: 5 times    6: 6 times 7: 7 times    8: 8 times    9: 9 times    10: 10 times    11: 11 times    12: 12 times 13: 13 times    14: 14 times    15: 15 times    16: 16 times</p>

### 12.8.3 REDUCTION RX

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether documents longer than the paper are printed reduced [ON], split [OFF], or discarded [CUT]. However, when sending a document more than 24 mm (1 inch) longer than the paper, [CUT] is not available. (In this case, the document is split.)</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON. OFF: 100% RX mode "ON": Reduction print mode CUT: Cut mode</li> </ul>

**A. Reduction print mode**

- It reduces (only the FD direction) and prints so that receiving data will in a recording media.

Recording media size	Footer	Length of received image	Printing
A4	OFF	Less than 289 mm	1 page with 100%
		290 mm to 313 mm	1 page with (289 mm / image length)% reduction
		314 mm to 570 mm	Divide into 2 pages with 100%
		571 mm to 851 mm	Divide into 3 pages with 100%
		852 mm or more	Divide into 4 pages (or more) with 100%
	ON	Less than 285 mm	1 page with 100%
		286 mm to 309 mm	1 page with (285 mm / image length)% reduction
		310 mm to 562 mm	Divide into 2 pages with 100%
		563 mm to 839 mm	Divide into 3 pages with 100%
		840 mm or more	Divide into 4 pages (or more) with 100%
Letter	OFF	Less than 271 mm	1 page with 100%
		272 mm to 295 mm	1 page with (271 mm / image length)% reduction
		296 mm to 534 mm	Divide into 2 pages with 100%
		535 mm to 797 mm	Divide into 3 pages with 100%
		798 mm or more	Divide into 4 pages (or more) with 100%
	ON	Less than 267 mm	1 page with 100%
		268 mm to 291 mm	1 page with (267 mm / image length)% reduction
		292 mm to 526 mm	Divide into 2 pages with 100%
		527 mm to 785 mm	Divide into 3 pages with 100%
Legal	OFF	Less than 348 mm	1 page with 100%
		349 mm to 371 mm	1 page with (347 mm / image length)% reduction
		372 mm to 688 mm	Divide into 2 pages with 100%
		689 mm to 1,028 mm	Divide into 3 pages with 100%
		1,029 mm or more	Divide into 4 pages (or more) with 100%
	ON	Less than 344 mm	1 page with 100%
		345 mm to 367 mm	1 page with (343 mm / image length)% reduction
		368 mm to 680 mm	Divide into 2 pages with 100%
		681 mm to 1,016 mm	Divide into 3 pages with 100%
		1,017 mm or more	Divide into 4 pages (or more) with 100%

Recording media size	Footer	Length of received image	Printing
Oficio	OFF	Less than 335 mm	1 page with 100%
		336 mm to 359 mm	1 page with (335 mm / image length)% reduction
		360 mm to 662 mm	Divide into 2 pages with 100%
		663 mm to 989 mm	Divide into 3 pages with 100%
		990 mm or more	Divide into 4 pages (or more) with 100%
	ON	Less than 331 mm	1 page with 100%
		332 mm to 355 mm	1 page with (331 mm / image length)% reduction
		356 mm to 654 mm	Divide into 2 pages with 100%
		655 mm to 977 mm	Divide into 3 pages with 100%
		978 mm or more	Divide into 4 pages (or more) with 100%

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**B. 100% RX mode**

- All receiving data is divided into 2 pages or more, and is printed.

Recording media size	Footer	Length of received image	Printing
A4	OFF	Less than 289 mm	1 page
		290 mm to 570 mm	Divide into 2 pages
		571 mm to 851 mm	Divide into 3 pages
		852 mm or more	Divide into 4 pages or more
	ON	Less than 285 mm	1 page
		286 mm to 562 mm	Divide into 2 pages
		563 mm to 839 mm	Divide into 3 pages
		840 mm or more	Divide into 4 pages or more
Letter	OFF	Less than 271 mm	1 page
		272 mm to 534 mm	Divide into 2 pages
		535 mm to 797 mm	Divide into 3 pages
		798 mm or more	Divide into 4 pages or more
	ON	Less than 267 mm	1 page
		268 mm to 526 mm	Divide into 2 pages
		527 mm to 785 mm	Divide into 3 pages
		786 mm or more	Divide into 4 pages or more
Legal	OFF	Less than 348 mm	1 page
		349 mm to 688 mm	Divide into 2 pages
		689 mm to 1,028 mm	Divide into 3 pages
		1,029 mm or more	Divide into 4 pages or more
	ON	Less than 344 mm	1 page
		345 mm to 680 mm	Divide into 2 pages
		681 mm to 1,016 mm	Divide into 3 pages
		1,017 mm or more	Divide into 4 pages or more
Oficio	OFF	Less than 335 mm	1 page
		336 mm to 662 mm	Divide into 2 pages
		663 mm to 989 mm	Divide into 3 pages
		990 mm or more	Divide into 4 pages or more
	ON	Less than 331 mm	1 page
		332 mm to 654 mm	Divide into 2 pages
		655 mm to 977 mm	Divide into 3 pages
		978 mm or more	Divide into 4 pages or more

**C. Cut mode**

- The data that is larger than 1-page record area is cut and not recorded (to 24 mm).

Recording media size	Footer	Length of received image	Printing
A4	OFF	Less than 289 mm	1 page
		290 mm to 313 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		314 mm to 570 mm	Divide into 2 pages
		571 mm to 594 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		595 mm to 851 mm	Divide into 3 pages
		852 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 285 mm	1 page
		286 mm to 309 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		310 mm to 562 mm	Divide into 2 pages
		563 mm to 586 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		587 mm to 839 mm	Divide into 3 pages
		840 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
Letter	OFF	Less than 271 mm	1 page
		272 mm to 295 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		296 mm to 534 mm	Divide into 2 pages
		535 mm to 558 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		559 mm to 797 mm	Divide into 3 pages
		798 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 267 mm	1 page
		268 mm to 291 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		292 mm to 526 mm	Divide into 2 pages
		527 mm to 550 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		551 mm to 785 mm	Divide into 3 pages
		786 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
Legal	OFF	Less than 348 mm	1 page
		349 mm to 371 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		372 mm to 688 mm	Divide into 2 pages
		689 mm to 712 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		713 mm to 1,028 mm	Divide into 3 pages
		1,029 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 344 mm	1 page
		345 mm to 367 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		368 mm to 680 mm	Divide into 2 pages
		681 mm to 704 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		705 mm to 1,016 mm	Divide into 3 pages
		1,017 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.

Recording media size	Footer	Length of received image	Printing
Oficio	OFF	Less than 335 mm	1 page
		336 mm to 359 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		360 mm to 662 mm	Divide into 2 pages
		663 mm to 686 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		687 mm to 989 mm	Divide into 3 pages
		990 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 331 mm	1 page
		332 mm to 355 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		356 mm to 654 mm	Divide into 2 pages
		655 mm to 678 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		679 mm to 977 mm	Divide into 3 pages
		978 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.

### 12.8.4 RX PRINT

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether the fax is only printed after all document pages have been received [MEMORY RX] or printing begins as soon as the first page of the document is received [PRINT RX].</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is MEMORY RX.</li> </ul> <p>"MEMORY RX": Printed after all document pages have been received. PRINT RX: Printing begins as soon as the first page of the document is received.</p>

### 12.8.5 RX MODE

Function	<ul style="list-style-type: none"> <li>This function can be used to set the reception mode to automatic reception [AUTO RX] or manual reception [MANUAL RX].</li> <li>Automatic reception: Automatically begins receiving after the set number of rings.</li> <li>Manual reception: Does not automatically receive the fax. Reception begins after making a connection by picking up the telephone receiver or pressing the On hook key, then pressing the Start key.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is AUTO RX.</li> </ul> <p>"AUTO RX": Automatic reception MANUAL RX: Manual reception</p>

### 12.8.6 FORWARD

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether or not the received document is forwarded.</li> </ul>
Use	<p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>In order to forward the document to an e-mail address, the optional image controller or network interface card is required.</b></li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p style="text-align: center;">“OFF” / ON / ON (PRINT)</p> <p>ON: The received document is forwarded to the specified fax number or e-mail address. ON (PRINT): The received document is printed by this machine at the same time that it is forwarded to the specified fax number or e-mail address.</p>

### 12.8.7 FOOTER

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether or not the reception information (date received, number of pages, etc.) is printed at the bottom of each received document.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF.</li> </ul> <p>“OFF”: No footer ON: Add footer</p>

#### A. Attaching footer print

When footer is selected ON, it is printed at the end of printable area. 4 mm line area from the end of printable area is kept for printing footer. It should be attached on footer area regardless of image length. If the received image is divided into 2 pages or more, footer is printed in the specified location of all the recording sheets of media printed.

Image data area:

The received image data is printed on the area except for 12 mm from recording media size. (No printable area: 8 mm ( $\frac{1}{3}$  in) + footer area: 4 mm ( $\frac{1}{4}$  in)) The following table is the image printable area of each recording media size due to setting of footer print.

Media length		Footer OFF	Footer ON	
		Image data area	Image data area	Footer area
A4S	297 mm	289 mm	285 mm	+4 mm
LetterS	279 mm	271 mm	267 mm	+4 mm
Legal	356 mm	348 mm	344 mm	+4 mm
Oficio	343 mm	335 mm	331 mm	+4 mm

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ADJUSTMENT/SETTING

**12.8.8 SELECT TRAY**

Function	<ul style="list-style-type: none"> <li>Select which paper tray can be used to supply paper when printing received documents or transmission reports.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is TRAY1.</li> </ul> <p style="text-align: center;">"TRAY1" / TRAY2</p>

**12.9 REPORTING****12.9.1 ACTIVITY REPORT**

Function	<ul style="list-style-type: none"> <li>Every 60 transmissions/receptions, a report can be printed to show the results of the transmissions/receptions. This function can be used to set whether the report is printed automatically when the 60th transmission/ reception is reached.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON.</li> </ul> <p style="text-align: center;">"ON" / OFF</p>

**12.9.2 TX RESULT REPORT**

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether the report showing the result of a transmission is printed automatically after the transmission is finished.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON (ERROR).</li> </ul> <p style="text-align: center;">ON / "ON (ERROR)" / OFF</p> <p>ON: Prints the report after each transmission.  ON (ERROR): Prints the report after a transmission only if an error occurred.  OFF: Does not print the report after each transmission, even if an error has occurred.</p>

**12.9.3 RX RESULT REPORT**

Function	<ul style="list-style-type: none"> <li>This function can be used to set whether the report showing the result of a reception is printed automatically after mailbox reception is finished. (If regular reception is not finished normally, a report will always be printed, regardless of the selected setting.)</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON (ERROR).</li> </ul> <p style="text-align: center;">ON / "ON (ERROR)" / OFF</p> <p>ON: Prints the report after each reception.  ON (ERROR): Prints the report after a reception only if an error occurred.  OFF: Does not print the report after each reception, even if an error has occurred.</p>

## 12.10 SCAN SETTING

### 12.10.1 RESOLUTION

Function	<ul style="list-style-type: none"> <li>The default settings for resolution used by the scan functions can be specified.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 150x150dpi. "150x150dpi" / 300x300dpi</li> </ul>

### 12.10.2 IMAGE FORMAT

Function	<ul style="list-style-type: none"> <li>The default settings for data format used by the scan functions can be specified.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is PDF. TIFF / "PDF" / JPEG</li> </ul>

### 12.10.3 CODING METHOD

Function	<ul style="list-style-type: none"> <li>The default settings for coding method, used by the scan functions can be specified.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is MH. "MH" / MR / MMR</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>These settings are available only if B&amp;W was selected for the color setting during the e-mail transmission.</b></li> </ul>


### 12.10.4 FILE SIZE

Function	<ul style="list-style-type: none"> <li>Specify the maximum data size (in Mb) for scan data sent by e-mail.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is NO SPLIT. "NO SPLIT" / SPLIT</li> <li>If SPLIT is selected, specify the maximum size between 1 and 10 Mb.</li> </ul>

### 12.10.5 QUALITY PRIORITY

Function	<ul style="list-style-type: none"> <li>Select the scan data quality that is used as a default.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is MIX. "MIX" / TEXT / PHOTO</li> </ul>

12.10.6 DENSITY LEVEL

Function	<ul style="list-style-type: none"><li>• Select the scan data density that is used as a default.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is .</li></ul> <p>(LIGHT) -2 / -1 / "0" / +1 / +2 (DARK)</p>

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ADJUSTMENT/SETTING

# 13. User service mode

## 13.1 User service mode function tree

### A. Procedure

1. Select [UTILITY] with the ▲/▼ key and press the Select key.
2. Keep on pressing ◀ key over two seconds.

### B. Exiting

- Press the Stop/Reset key.

### NOTE

- <\*1>: Displayed only on magicolor 1690MF
- <\*2>: If engine is EU type, this item doesn't display.

MAINTENANCE		Ref. page
FAX MAINTENANCE	TX SPEED <*1>	P.120
	RX SPEED <*1>	
	TX LEVEL <*1>	
	RX LEVEL <*1>	
	DTMF LEVEL <*1>	
	CNG LEVEL <*1>	
	CED LEVEL <*1>	
	ECM MODE <*1>	
	CODING SCHEME <*1>	
	TONER EMPTY REPORT <*1>	
	PROTOCOL REPORT <*1>	
	GDI TIMEOUT	
	TWAIN TIMEOUT	
	ENERGY SAVE MODE <*2>	
ADJUST	CIS MAIN ZOOM	P.120
	CIS SUB ZOOM	
	CIS MAIN REGIST	
	CIS SUB REGIST	
	ADF SUB ZOOM <*1>	
	ADF MAIN REG <*1>	
	ADF SUB REG <*1>	
	FLICKER	
	TOP ADJUSTMENT	
	PLAIN PAPER	
	THICK	
	ENVELOPE	
	LEFT ADJ. (FRONT)	
	LEFT ADJ TRAY1	
	LEFT ADJ TRAY2 <*1>	
	LEFT ADJ. (BACK) <*1>	
	LEFT ADJ TRAY1 <*1>	
	LEFT ADJ TRAY2 <*1>	

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MAINTENANCE				Ref. page
	TRANSFER POWER	SIMPLEX PASS	PLAIN PAPER	P.120
			THICK1	
			THICK2	
			POSTCARD	
			ENVELOPE	
			LABEL	
		DUPLEX PASS	PLAIN PAPER	
	IMAGE ADJ PRAM			

13.2 FAX MAINTENANCE

See P.125

13.3 ADJUST

See P.128

ADJUSTMENT/SETTING

# 14. SERVICE MODE

## 14.1 SERVICE MODE entry procedure

**NOTE**

- **Ensure appropriate security for the Service Mode entry procedure. It should NEVER be given to any unauthorized person.**

**A. Procedure**

1. On the initial screen, press the following keys in this order.  
Select → Stop/Reset → 0 → 0 → Stop/Reset → 0 → 1

**B. Exiting**

- Press the Stop/Reset key.

## 14.2 SERVICE MODE function tree

**NOTE**

- **The function tree is shown to comply with the format displayed on the screen.**
- **<\*1>: Displayed only on magicolor 1690MF**
- **<\*2>: This menu is used only for magicolor 1690MF.**
- **<\*3>: If engine is EU type, this item doesn't display.**
- **<\*4>: Displayed only when the lower feeder unit is installed.**

SERVICE MODE		Ref. page
SERVICE'S CHOICE	TX SPEED <*1>	P.125
	RX SPEED <*1>	P.125
	TX LEVEL <*1>	P.125
	RX LEVEL <*1>	P.125
	DTMF LEVEL <*1>	P.125
	CNG LEVEL <*1>	P.126
	CED LEVEL <*1>	P.126
	ECM MODE <*1>	P.126
	CODING SCHEME <*1>	P.126
	TONER EMPTY REPORT <*1>	P.127
	PROTOCOL REPORT <*1>	P.127
	GDI TIMEOUT	P.127
	TWAIN TIMEOUT	P.128
	ENERGY SAVE MODE <*3>	P.128
	ENABLE WARNING	T/C LOW P.128
		I/C LOW P.128

SERVICE MODE				Ref. page
ADJUST	CIS MAIN ZOOM			P.129
	CIS SUB ZOOM			P.130
	CIS MAIN REGIST			P.131
	CIS SUB REGIST			P.132
	ADF SUB ZOOM <*1>			P.133
	ADF MAIN REG <*1>			P.134
	ADF SUB REG <*1>			P.135
	FLICKER			P.136
	TOP ADJUSTMENT	PLAIN PAPER		P.136
		THICK		
		ENVELOPE		
	LEFT ADJ. (FRONT)	TRAY1		P.136
		TRAY2 <*1>		
	LEFT ADJ. (BACK)	TRAY1 <*1>		P.136
		TRAY2 <*1>		
	TRANSFER POWER	SIMPLEX PASS	PLAIN PAPER	P.137
			THICK1	
			THICK2	
			POSTCARD	
			ENVELOPE	
		DUPLEX PASS <*1>	LABEL	
			PLAIN PAPER	P.137
	IMAGE ADJ PARAM			P.137
	TEMPERATURE	PLAIN PAPER		P.138
		THICK		
		ENVELOPE		
	SUPPLIES REPLACE	FUSER UNIT		P.138
		TRANSFER ROLLER		P.138
	BK CLEAR			P.138
COUNTER	TOTAL PRINT	TOTAL FACE		P.139
		COLOR COPY		P.139
		COLOR PRINT		P.139
		MONO COPY		P.139
		MONO PRINT		P.139
		FAX PRINT <*1>		P.139
		TOTAL DUP. <*1>		P.139
		D COLOR COPY <*1>		P.139
		D COLOR PRN <*1>		P.139
		D MONO COPY <*1>		P.139
		D MONO PRN <*1>		P.140

SERVICE MODE			Ref. page
	FAX COUNTER <*1>	TX JOB <*1>	P.140
		RX JOB <*1>	
	SCAN COUNTER	IR	P.140
		ADF <*1>	
	TRAY COUNTER	TRAY1	P.140
		TRAY2 <*1>	
	PAPER SIZE COUNTER		P.140
	PAPER TYPE COUNTER		P.140
	APPLICATION COUNT.	COPY PRINT	P.141
		FAX RX PRN. <*1>	
		REPORT PRN.	
		PC PRINT	
		FAX TX <*1>	
		MAIL TX <*1>	
		SCAN TO FTP <*1>	
		SCAN TO SMB <*1>	
		SCAN TO USB <*1>	
		TWAIN	
		PICTBRIDGE <*1>	
		USB TO PRN. <*1>	
	SUPPLIES STATUS	C TONER	P.141
		M TONER	
		Y TONER	
		K TONER	
		I/C	
	CRU USAGE	TRASNFER BELT	P.141
		FUSER UNIT	
		TRANSFER ROLLER	
		DRUM UNIT	
	JAM COUNTER	PRINTER	P.141
		ADF <*1>	
	TROUBLE COUNTER	TOTAL	
DISPLAY	MAIN F/W VER.		P.142
	ENGINE F/W VER.		P.142
	MAIN RAM SIZE		P.142
	SERIAL NO.		P.142
	BB CPLD VERSION		P.142

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ADJUSTMENT/SETTING

SERVICE MODE				Ref. page
FUNCTION	PAPER FEED TEST	TRAY1		P.143
		TRAY2 <*1> <*4>		
	PRN TEST PATTERN	TRAY1	PATTERN1	P.143
			PATTERN2	
		TRAY2 <*1> <*4>	PATTERN1	
			PATTERN2	
	ADF FEED TEST <*1>			P.144
	COPY ADF GLASS <*1>			P.144
	FAX RES. COPY TEST <*1>			P.144
SCAN TEST			P.144	
SOFT SWITCH <*2>				P.145
REPORT	SERVICE DATA LIST			P.145
	ERROR CODE LIST <*1>			P.149
	T.30 PROTOCOL LIST <*1>			P.150
ADMIN. REGISTRATION				P.152
FIXED ZOOM CHANGE	REDUCTION2			P.152
	REDUCTION1			
	EXPANSION1			
	EXPANSION2			
FACTORY TEST	SIGNAL TEST <*1>			P.152
	RELAY TEST <*1>			
	SENSOR TEST <*1>			
	DIAL TEST <*1>			
	VOLUME TEST <*1>			
	PANEL BUZZER TEST			
	RAM TEST			
CLEAR DATA	SRAM CLEAR			P.153
	MEMORY CLEAR			P.153

### 14.3 SERVICE'S CHOICE

#### 14.3.1 TX SPEED

Function	<ul style="list-style-type: none"> <li>Transmit start speed setting. Choose the mode from among the following.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is V.34 33600bps.</li> </ul> <p>                     "V.34": "33600", 31200, 28800, 26400, 24000, 21600, 19200, 16800                      V.17: 14400, 12000, 9600, 7200                      V.29: 9600, 7200                      V.27: 4800, 2400                 </p>

#### 14.3.2 RX SPEED

Function	<ul style="list-style-type: none"> <li>Reception start speed setting. Choose the mode from among the following.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is V.34 33600bps.</li> </ul> <p>                     "V.34": "33600", 31200, 28800, 26400, 24000, 21600, 19200, 16800                      V.17: 14400, 12000, 9600, 7200                      V.29: 9600, 7200                      V.27: 4800, 2400                 </p>

#### 14.3.3 TX LEVEL

Function	<ul style="list-style-type: none"> <li>PSK/FSK signal output level.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is -9 dBm.</li> </ul> <p>-17 to -10 dBm ~ "-9 dBm" ~ -8 to -2 dBm</p>

#### 14.3.4 RX LEVEL

Function	<ul style="list-style-type: none"> <li>Reception sensitivity level.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is -43 dBm.</li> </ul> <p>-49 to -44 dBm ~ "-43 dBm" ~ -42 to -36 dBm</p>

#### 14.3.5 DTMF LEVEL

Function	<ul style="list-style-type: none"> <li>Dual tone output level.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is -9 dBm.</li> </ul> <p>-17 to -10 dBm ~ "-9 dBm" ~ -8 to -2 dBm</p>

14.3.6 CNG LEVEL

Function	<ul style="list-style-type: none"><li>• Calling tone output level.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is -11 dBm. -17 to -12 dBm ~ "-11 dBm" ~ -10 to -2 dBm</li></ul>

14.3.7 CED LEVEL

Function	<ul style="list-style-type: none"><li>• Answer tone output level.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is -11 dBm. -17 to -12 dBm ~ "-11 dBm" ~ -10 to -2 dBm</li></ul>

14.3.8 ECM MODE

Function	<ul style="list-style-type: none"><li>• Select error correction mode.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is ON. "ON": When an error occurs during communication, re-send the frame where the error occurs. OFF: Any error is ignored during communication.</li></ul>

14.3.9 CODING SCHEME

Function	<ul style="list-style-type: none"><li>• Select compression method in TX/ RX mode.</li></ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"><li>• The default setting is JBIG. MMR: A compression method. MR: A compression method. MH: The simplest compression method. "JBIG": The most complex compression method that generates the smallest code than any of following ones.</li></ul>

**14.3.10 TONER EMPTY REPORT**

Function	<ul style="list-style-type: none"> <li>Select to generate a report to a specific destination when toner empty status occurs in the engine.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF. <ul style="list-style-type: none"> <li>ON: Generate a report to report destination.</li> <li>"OFF": Not to generate report.</li> </ul> </li> <li>If "ON" is selected, select generate report and send to remote side when toner runs out.</li> <li>Enter the telephone number for which the report is to be produced.</li> <li>Fax number specifications: An up-to-20-digit number that may consist of [0-9], [*], [#], [pause], and [space]. (0-9, #, *, pause, _)</li> <li>The report will generate after 20 minutes, 24 hours, 48 hours, or 72 hours after the event has occurred or until the condition is gone.</li> </ul>

**A. Toner empty report (example)**

NAME:ABC 123 TEL:1234567 DATE: Jun 10.2008 15:12  The Fax's following conditions were appears, the machine may be can not work correctly, the Fax already send a report to your dealer automatically. They will contact with you soon.  Toner Cartridge Cyan : Empty Toner Cartridge Magenta : Full Toner Cartridge Yellow : Full Toner Cartridge Black : Full	<div style="border: 1px solid black; padding: 5px; display: inline-block;">SERVICE REPORT</div>
A0FDF3C500DA	

**14.3.11 PROTOCOL REPORT**

Function	<ul style="list-style-type: none"> <li>Print communication report.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is OFF. <ul style="list-style-type: none"> <li>"OFF": Disable T.30 communication report.</li> <li>ON: Print T.30 communication report.</li> <li>ON (ERROR): Print T.30 communication report when an error occurs.</li> </ul> </li> </ul>

**14.3.12 GDI TIMEOUT**

Function	<ul style="list-style-type: none"> <li>To specify the time for GDI time out.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 60 sec. <div style="text-align: center;">5 sec / 10 sec / 20 sec / 30 sec / 40 sec / 50 sec / "60 sec"</div> </li> </ul>

**14.3.13 TWAIN TIMEOUT**

Function	<ul style="list-style-type: none"> <li>To specify the time for TWAIN time out.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 6 min. 2min / 4min / "6min" / 8min / 10min / 12min / 14min / 16min / 18min</li> </ul>

**14.3.14 ENERGY SAVE MODE**

Function	<ul style="list-style-type: none"> <li>Set weather to activate Energy Save mode when print job receiving or panel operation have not been made for a given period.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON. "ON" / OFF</li> </ul>

**14.3.15 ENABLE WARNING****A. T/C LOW**

Function	<ul style="list-style-type: none"> <li>Specifies whether or not a warning appears when the toner is about to run out.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON. "ON" / OFF</li> </ul>

**B. I/C LOW**

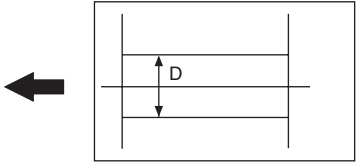
Function	<ul style="list-style-type: none"> <li>Specifies whether or not a warning appears when the print unit is about to reach the end of its service life.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is ON. "ON" / OFF</li> </ul>

**14.4 ADJUST**

- Different adjust items are applicable and the corresponding adjust values become valid according to the specific sub-function of the main function (Copy, Fax, Twain, or NetScan) as detailed below.

Adjust item	Function							
	Copy		Fax		Twain		Scan	
	CIS	ADF	CIS	ADF	CIS	ADF	CIS	ADF
CIS MAIN ZOOM	○	○	○	○	X	X	X	X
CIS SUB ZOOM	○	X	○	X	X	X	X	X
CIS MAIN REGIST	○	X	○	X	○	X	○	X
CIS SUB REGIST	○	X	○	X	○	X	○	X
ADF SUB ZOOM	X	○	X	○	X	X	X	X
ADF MAIN REG	X	○	X	○	X	○	X	○
ADF SUB REG	X	○	X	○	X	○	X	○

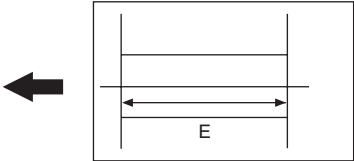
### 14.4.1 CIS MAIN ZOOM

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the scanner unit has been replaced.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the width of D in the copy of the test pattern1 so that the following specification is met.</li> <li>100 ± 0.5% (Zoom Ratio = Full Size:100%)</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: right;">4139F3C548DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>The default setting is 0%.</li> <li>-2.0% ~ "0%" ~ +2.0%</li> <li>Step: 0.2%</li> </ul>
Setting/ Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [CIS MAIN ZOOM] of [ADJUST] and press the Select key.</li> <li>Place the test pattern1 on the Original Glass and make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>Check that the width of D in the copy of the test pattern1 meets the specification. Calculation: (1 - Width of D in the document ÷ Width of D in the copy) × 100 If the width of D is out of specification, adjust it according to the following procedure.</li> <li>Press the Select key.</li> <li>Using the ▲/▼ key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 on the Original Glass. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of D in the test pattern is longer than the specified width ..... Decrease the setting.</li> <li>If the width of D in the test pattern is shorter than the specified width ..... Increase the setting.</li> </ul>

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ADJUSTMENT/SETTING

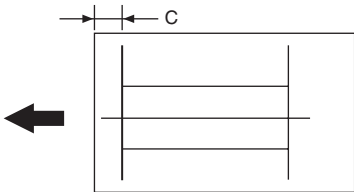
# 14.4.2 CIS SUB ZOOM

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the Scanner unit has been replaced</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the width of E in the copy of the test pattern1 so that the following specification is met.</li> <li>200 ± 0.5% (Zoom Ratio = Full Size:100%)</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: right;">4139F3C549DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>The default setting is 0%.</li> <li>-2.0% ~ "0%" ~ +2.0%</li> <li>Step: 0.2%</li> </ul>
Setting/ Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [CIS SUB ZOOM] of [ADJUST] and press the Select key.</li> <li>Place the test pattern1 on the Original Glass and make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>Check that the width of E in the copy of the test pattern1 meets the specification. Calculation: (1 - Width of E in the document ÷ Width of E in the copy) × 100 If the width of E is out of specification, adjust it according to the following procedure.</li> <li>Press the Select key.</li> <li>Using the ▲/▼ key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 on the Original Glass. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of E in the test pattern is longer than the specified width ..... Decrease the setting.</li> <li>If the width of E in the test pattern is shorter than the specified width ..... Increase the setting.</li> </ul>

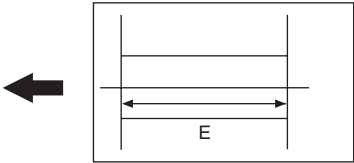
### 14.4.3 CIS MAIN REGIST

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the original glass is replaced.</li> <li>When the Scanner unit has been replaced</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> <li><b>After the [CIS MAIN ZOOM] adjustments have been performed</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the amount that widths A and B in the copy of the test pattern1 so that the following specification is met.</li> <li>0 ± 2.0 mm</li> </ul> <div> </div> <p style="text-align: right;">4139F3C546DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>The default setting is 0.</li> <li>-5.0 (-5.0 mm) ~ "0.0 (0.0 mm)" ~ +5.0 (+5.0 mm)</li> <li>Step: 0.5 mm</li> </ul>
Setting/ Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [CIS MAIN REGIST] of [ADJUST] and press the Select key.</li> <li>Place the test pattern1 on the Original Glass and make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>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.</li> <li>Press the Select key.</li> <li>Using the ▲/▼ key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 on the Original Glass. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of A is less than the width of B..... Increase the setting.</li> <li>If the width of B is less than the width of A..... Decrease the setting.</li> </ul>

14.4.4 CIS SUB REGIST

Function	<ul style="list-style-type: none"><li>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.</li></ul>
Use	<ul style="list-style-type: none"><li>When the MFP board has been replaced.</li><li>When the original glass is replaced.</li><li>When the Scanner unit has been replaced</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li><li><b>After the [CIS SUB ZOOM] adjustments have been performed</b></li></ul>
Adjustment Specification	<ul style="list-style-type: none"><li>Adjust the width of C in the copy of the test pattern1 so that the following specification is met.</li><li><math>20 \pm 2.5 \text{ mm}</math></li></ul> <div></div> <p>4139F3C547DA</p>
Adjustment Range	<ul style="list-style-type: none"><li>The default setting is 0.</li><li>-5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)</li><li>Step: 0.5 mm</li></ul>
Setting/ Procedure	<ol style="list-style-type: none"><li>Print the test pattern1. <a href="#">See P.143</a></li><li>Enter the [ADJUST] menu in the service mode.</li><li>Select [CIS SUB REGIST] of [ADJUST] and press the Select key.</li><li>Place the test pattern1 on the Original Glass and make a test copy.</li></ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li><b>The test pattern1 should be positioned vertically.</b></li><li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li></ul> <ol style="list-style-type: none"><li>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.</li><li>Press the Select key.</li><li>Using the ▲/▼ key, change the setting value and then press the Select key.</li><li>Place the test pattern1 on the Original Glass. Then, make a test copy again and check it.</li></ol>
Adjustment Instructions	<ul style="list-style-type: none"><li>If the width of C in the test pattern is longer than the specified width ..... Increase the setting.</li><li>If the width of C in the test pattern is shorter than the specified width ..... Decrease the setting.</li></ul>

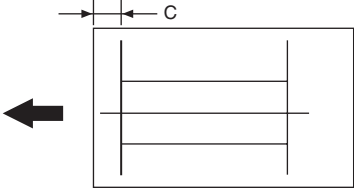
### 14.4.5 ADF SUB ZOOM

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the original glass is replaced.</li> <li>When a new Auto Document Feeder Unit is mounted</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> <li><b>After the [CIS SUB ZOOM] adjustments have been performed</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the length of E in the copy of the test pattern so that the following specification is met.</li> <li>200 ± 0.5 % (Zoom Ratio = Full Size: 100 %)</li> </ul> <div style="text-align: center;">  </div> <p style="text-align: right;">4139F3C549DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>-2.0% ~ "0%" ~ +2.0%</li> <li>Step: 0.4%</li> </ul>
Setting/ Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [ADF SUB ZOOM], and press the Select key.</li> <li>Place test pattern 1 in the ADF with its printed surface up.</li> <li>Select [TEST COPY] and press the Select key to make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>Check that the width of E in the copy of the test pattern1 meets the specification. Calculation: (1 - Width of E in the document ÷ Width of E in the copy) × 100 If the width of E is out of specification, adjust it according to the following procedure.</li> <li>Select [ADJUST], and press the Select key.</li> <li>Using the ▲/▼ key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 into the Automatic Document Feeder. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of E in the test pattern is longer than the specified width ..... Decrease the setting.</li> <li>If the width of E in the test pattern is shorter than the specified width ..... Increase the setting.</li> </ul>

## 14.4.6 ADF MAIN REG

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the original glass is replaced.</li> <li>When a new Auto Document Feeder Unit is mounted</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> <li><b>After the [CIS SUB ZOOM] adjustments have been performed</b></li> <li><b>After the [ADF SUB ZOOM] adjustments have been performed</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the amount that widths A and B in the copy of the test pattern1 so that the following specification is met.</li> <li><math>0 \pm 2.0</math> mm</li> </ul> <div> </div> <p>4139F3C546DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>-5.0 (-5.0 mm) ~ "0.0 (0.0 mm)" ~ +5.0 (+5.0 mm)</li> <li>Step: 0.5 mm</li> </ul>
Setting/Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [ADF MAIN REG], and press the Select key.</li> <li>Place test pattern 1 in the ADF with its printed surface up.</li> <li>Select [TEST COPY] and press the Select key to make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>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.</li> <li>Select [ADJUST], and press the Select key.</li> <li>Using the <math>\blacktriangle/\blacktriangledown</math> key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 into the Automatic Document Feeder. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of A is less than the width of B..... Increase the setting.</li> <li>If the width of B is less than the width of A..... Decrease the setting.</li> </ul>

### 14.4.7 ADF SUB REG

Function	<ul style="list-style-type: none"> <li>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.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the MFP board has been replaced.</li> <li>When the original glass is replaced.</li> <li>When a new Auto Document Feeder Unit is mounted</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>When the MFP board is replaced, the setting value is cleared. Re-entering a new setting value is necessary.</b></li> <li><b>After the [CIS SUB ZOOM] adjustments have been performed</b></li> <li><b>After the [ADF SUB ZOOM] adjustments have been performed</b></li> </ul>
Adjustment Specification	<ul style="list-style-type: none"> <li>Adjust the width of C in the copy of the test pattern1 so that the following specification is met.</li> <li><math>20 \pm 2.5 \text{ mm}</math></li> </ul>  <p style="text-align: right;">4139F3C547DA</p>
Adjustment Range	<ul style="list-style-type: none"> <li>-5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)</li> <li>Step: 0.5 mm</li> </ul>
Setting/ Procedure	<ol style="list-style-type: none"> <li>Print the test pattern1. <a href="#">See P.143</a></li> <li>Enter the [ADJUST] menu in the service mode.</li> <li>Select [ADF SUB REG], and press the Select key.</li> <li>Place test pattern 1 in the ADF with its printed surface up.</li> <li>Select [TEST COPY] and press the Select key to make a test copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The test pattern1 should be positioned vertically.</b></li> <li><b>Use A4 or Letter paper loaded into tray1 to make the test copy.</b></li> </ul> <ol style="list-style-type: none"> <li>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.</li> <li>Select [ADJUST], and press the Select key.</li> <li>Using the ▲/▼ key, change the setting value and then press the Select key.</li> <li>Place the test pattern1 into the Automatic Document Feeder. Then, make a test copy again and check it.</li> </ol>
Adjustment Instructions	<ul style="list-style-type: none"> <li>If the width of C in the test pattern is longer than the specified width ..... Increase the setting.</li> <li>If the width of C in the test pattern is shorter than the specified width ..... Decrease the setting.</li> </ul>

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magicolor 1690MF

ADJUSTMENT/SETTING

**14.4.8 FLICKER**

Function	<ul style="list-style-type: none"> <li>Eliminates flickers of a room fluorescent light when it occurs due to power source use environment or similar reason.</li> </ul>
Use	<ul style="list-style-type: none"> <li>Use when the fluorescent light flickers due to power source use environment or similar reason.</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The default setting is 0.</li> </ul> <p>"0": Flicker control is determined according to an area code.</p> <p>1: Flicker control is always on.</p> <p>2: Flicker control is always off.</p>

**14.4.9 TOP ADJUSTMENT**

Function	<ul style="list-style-type: none"> <li>Adjusts the top margin of media for single-sided printing.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To correct a misaligned print image.</li> </ul> <p>PLAIN PAPER : Adjust the head margin of plain paper.</p> <p>THICK : Adjust the head margin of thick paper.</p> <p>ENVELOPE : Adjust the head margin of envelope.</p>
Setting /procedure	<ol style="list-style-type: none"> <li>Select [TOP ADJUSTMENT] and press the Select key.</li> <li>Select desired paper type and press the Select key.</li> <li>Select desired adjustment amount with the up key▲/down key▼ and press the Select key.</li> </ol> <p>-15 to +15 (1 step: 0.21 mm)</p>

**14.4.10 LEFT ADJ. (FRONT)**

Function	<ul style="list-style-type: none"> <li>Adjusts the left margin of media for single-sided printing.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To correct a misaligned print image.</li> </ul> <p>TRAY 1: Adjust the left margin of media fed from tray 1 (manual tray.)</p> <p>TRAY 2: Adjust the left margin of media fed from tray 2.</p>
Setting /procedure	<ol style="list-style-type: none"> <li>Select [LEFT ADJ. (FRONT)] and press the Select key.</li> <li>Select desired tray and press the Select key.</li> <li>Select desired adjustment amount with the up key▲/down key▼ and press the Select key.</li> </ol> <p>-15 to +15 (1 step: 0.21 mm)</p>

**14.4.11 LEFT ADJ. (BACK)**

Function	<ul style="list-style-type: none"> <li>Adjusts the left margin of media for double-sided printing.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To correct a misaligned print image.</li> </ul> <p>TRAY 1: Adjust the left margin of duplex print media fed from tray 1 (manual tray.)</p> <p>TRAY 2: Adjust the left margin of duplex print media fed from tray 2.</p>
Setting /procedure	<ol style="list-style-type: none"> <li>Select [LEFT ADJ. (BACK)] and press the Select key.</li> <li>Select desired tray and press the Select key.</li> <li>Select desired adjustment amount with the up key▲/down key▼ and press the Select key.</li> </ol> <p>-15 to +15 (1 step: 0.21 mm)</p>

## 14.4.12 TRANSFER POWER

### A. SIMPLEX PASS

Functions	<ul style="list-style-type: none"> <li>Adjust the 2nd image transfer output (ATVC) on the single-sided pages for each media type.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use when the transfer failure at the trailing edge occurs.</li> </ul>
Adjustment Range	<ul style="list-style-type: none"> <li>The default setting is 0.</li> </ul> <p style="text-align: center;">-8 ~ +7</p>
Adjustment Instructions	<p>To increase the ATVC value (in the direction of a foggier image), decrease the setting value.</p> <p>To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.</p>
Setting/ Procedure	<ol style="list-style-type: none"> <li>1. Select [TRANSFER POWER] and press the Select key.</li> <li>2. Select [SIMPLEX PASS] and press the Select key.</li> <li>3. Select desired media type with the up key▲/down key▼ and press the Select key.</li> <li>4. Select desired setting value with the up key▲/down key▼ and press the Select key.</li> </ol>

### B. DUPLEX PASS

Functions	<ul style="list-style-type: none"> <li>Adjust the 2nd image transfer output (ATVC) on the duplexed pages for each media type.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use when the transfer failure at the trailing edge occurs.</li> </ul>
Adjustment Range	<ul style="list-style-type: none"> <li>The default setting is 0.</li> </ul> <p style="text-align: center;">-8 ~ +7</p>
Adjustment Instructions	<p>To increase the ATVC value (in the direction of a foggier image), decrease the setting value.</p> <p>To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.</p>
Setting/ Procedure	<ol style="list-style-type: none"> <li>1. Select [TRANSFER POWER] and press the Select key.</li> <li>2. Select [DUPLEX PASS] and press the Select key.</li> <li>3. Select desired media type with the up key▲/down key▼ and press the Select key.</li> <li>4. Select desired setting value with the up key▲/down key▼ and press the Select key.</li> </ol>

## 14.4.13 IMG ADJ PARAM

Function	<ul style="list-style-type: none"> <li>Adjusts the printer in case of an image quality problem (uneven density)</li> </ul>
Use	<ul style="list-style-type: none"> <li>To correct image quality problems (uneven density) due to the printer being operated at a high altitude.</li> </ul>
Setting /procedure	<ul style="list-style-type: none"> <li>The default setting is 0.</li> </ul> <p style="text-align: center;">"0": 0 V 1: -100 V 2: -200 V 3: -300 V</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When the setting has been changed, be sure to run a [CALIBRATION] process. See P.91</li> </ul>

## 14.4.14 TEMPERATURE

Function	<ul style="list-style-type: none"> <li>To adjust the fusing heating temperature individually for each paper type so as to ensure good fusing performance that varies with varying environmental conditions.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.</li> <li>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.</li> </ul>
Adjustment Range	PLAIN PAPER: -10 °C / -5 °C / 0 °C THICK: -10 °C / -5 °C / 0 °C ENVELOPE: -10 °C / -5 °C / 0 °C
Adjustment Instructions	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.
Setting /procedure	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.

## 14.4.15 SUPPLIES REPLACE

## A. FUSER UNIT

Function	<ul style="list-style-type: none"> <li>Resets the fuser unit counter.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use when the fuser unit has been replaced.</li> </ul>
Setting /procedure	1. Select [SUPPLIES REPLACE] → [FUSER UNIT]. 2. Press the Select key. 3. Press the Select key and reset the counter.

## B. TRANSFER ROLLER

Function	<ul style="list-style-type: none"> <li>Resets the transfer roller counter.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To use when the transfer roller has been replaced.</li> </ul>
Setting /procedure	1. Select [SUPPLIES REPLACE] → [TRANSFER ROLLER]. 2. Press the Select key. 3. Press the Select key and reset the counter.

## 14.4.16 BK CLEAR

Function	<ul style="list-style-type: none"> <li>To clear engine information backup data</li> </ul>
Use	<ul style="list-style-type: none"> <li>Use when the engine information backup data is cleared.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>Execute this function to synchronize data when the MFP board or the printer control board is replaced with a new one.</b></li> </ul>
Setting /procedure	1. Select [BK CLEAR] and press the Select key. 2. Press the Select key and clear the backup data.

## 14.5 COUNTER

### 14.5.1 TOTAL PRINT

#### A. TOTAL FACE

Function	• Displays the total number of face.
Use	• When checking the total number of face.

#### B. COLOR COPY

Function	• Displays the number of color copies made.
Use	• When checking the number of color copies made.

#### C. COLOR PRINT

Function	• Displays the number of color printed pages produced.
Use	• When checking the number of color printed pages produced.

#### D. MONO COPY

Function	• Displays the number of monochrome copies made.
Use	• When checking the number of monochrome copies made.

#### E. MONO PRINT

Function	• Displays the number of monochrome printed pages produced.
Use	• When checking the number of monochrome printed pages produced.

#### F. FAX PRINT

Function	• Displays the number of FAX printed pages produced.
Use	• When checking the number of FAX printed pages produced.

#### G. TOTAL DUP.

Function	• Displays the total number of sheets of duplex copy or duplex print.
Use	• When checking the total number of sheets of duplex copy or duplex print.

#### H. D COLOR COPY

Function	• Displays the number of duplex color printed pages produced.
Use	• When checking the number of duplex color printed pages produced.

#### I. D COLOR PRN

Function	• Displays the number of duplex monochrome copies made.
Use	• When checking the number of duplex monochrome copies made.

#### J. D MONO COPY

Function	• Displays the number of duplex monochrome copies made.
Use	• When checking the number of duplex monochrome copies made.

**K. D MONO PRN**

Function	• Displays the number of duplex monochrome printed pages produced.
Use	• When checking the number of duplex monochrome printed pages produced.

**14.5.2 FAX COUNTER**

Function	• Displays the number of FAX printed pages produced.
Use	• 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.

**14.5.3 SCAN COUNTER**

Function	• To display the count of the scan counter.
Use	• When checking the number of scans made. IR: Count one when one time of IR action completed. ADF: Count the number of sheet of ADF scanning.

**14.5.4 TRAY COUNTER**

Function	• Displays the number of sheets of paper used for each tray.
Use	• The element to count is as follows. TRAY1, TRAY2

**14.5.5 PAPER SIZE COUNTER**

Function	• Displays the number of sheets of paper used for each size and type.
Use	• A paper size counter is as follows. A4, B5, A5, LEGAL, LETTER, OTHERS

**14.5.6 PAPER TYPE COUNTER**

Function	• Displays the number of sheets of paper used for each paper type.
Use	• A paper type counter is as follows. PLAIN PAPER, THICK, THICK2, ENVELOPE, LETTERHEAD, POSTCARD, LABEL

**14.5.7 APPLICATION COUNT.**

Function	<ul style="list-style-type: none"> <li>To display the count of the number of sheets of paper used for each of different applications.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When checking the number of sheets of paper used for each of different applications.</li> <li>COPY PRINT: Number of copies made</li> <li>FAX RX PRN.: Number of printed pages received by Fax</li> <li>REPORT PRN.: Number of printed report pages</li> <li>PC PRINT: Number of printed pages produced from PC</li> <li>FAX TX: Number of transmitting to Fax.</li> <li>MAIL TX: Number of transmitting to mail server.</li> <li>SCAN TO FTP: Number of transmitting to FTP server.</li> <li>SCAN TO SMB: Number of transmitting to SMB.</li> <li>SCAN TO USB: Number of transmitting to USB memory.</li> <li>TWAIN: Number of transmitting to PCI.</li> <li>PICTBRIDGE: Number of sheets counts at the time of the completion of printing.</li> <li>* This machine is not supporting PictBridge.</li> <li>USB TO PRN.: Number of sheets counts at the time of the completion of USB printing.</li> </ul>

**14.5.8 SUPPLIES STATUS**

Function	<ul style="list-style-type: none"> <li>Display toner and image unit status.</li> </ul>
Use	<ul style="list-style-type: none"> <li>C TONER: Displays the remaining amount of toner in the cyan (C) toner cartridge as a percentage.</li> <li>M TONER: Displays the remaining amount of toner in the magenta (M) toner cartridge as a percentage.</li> <li>Y TONER: Displays the remaining amount of toner in the yellow (Y) toner cartridge as a percentage.</li> <li>K TONER: Displays the remaining amount of toner in the black (K) toner cartridge as a percentage.</li> <li>I/C: Displays the remaining service life of the imaging unit as a percentage.</li> </ul>

**14.5.9 CRU USAGE**

Function	<ul style="list-style-type: none"> <li>Displays the remaining life of the maintenance service parts.</li> </ul>
Use	<ul style="list-style-type: none"> <li>To check the remaining life of the maintenance service parts.</li> <li>TRANSFER BELT: Displays the remaining life of the transfer belt.</li> <li>FUSER UNIT: Displays the remaining life of the fusing unit.</li> <li>TRANSFER ROLLER: Displays the remaining life of the transfer roller.</li> <li>DRUM UNIT: Displays the remaining life of the drum unit.</li> </ul>

**14.5.10 JAM COUNTER**

Function	<ul style="list-style-type: none"> <li>Displays the number of misfeeds that have occurred.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When checking for the number of misfeeds that have occurred</li> <li>PRINTER, ADF</li> </ul>

**14.5.11 TROUBLE COUNTER**

Function	<ul style="list-style-type: none"> <li>Displays the number of malfunctions detected.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When checking for the number of malfunctions detected</li> <li>TOTAL: Total numbers of all malfunctions detected.</li> </ul>

**14.6 DISPLAY****14.6.1 MAIN F/W VER.**

Function	<ul style="list-style-type: none"> <li>Displays the version of the controller firmware.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When upgrading the firmware</li> <li>When the image processing board has been replaced with a new one</li> </ul>

**14.6.2 ENGINE F/W VER.**

Function	<ul style="list-style-type: none"> <li>Displays the version of the engine firmware.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When the printer control board has been replaced with a new one</li> </ul>

**14.6.3 MAIN RAM SIZE**

Function	<ul style="list-style-type: none"> <li>Displays the size of the main memory.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When checking for the memory size</li> </ul>

**14.6.4 SERIAL NO.**

Function	<ul style="list-style-type: none"> <li>Displays the serial number of the printer engine.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When checking for the printer serial number</li> </ul>

**14.6.5 BB CPLD VERSION**

Function	<ul style="list-style-type: none"> <li>Displays the version of the BB CPLD firmware.</li> </ul>
Use	

14.7 FUNCTION

14.7.1 PAPER FEED TEST

Function	<ul style="list-style-type: none"><li>• To check the paper feeding in the paper take-up/transport sections without printing on the paper.</li></ul>
Use	<ul style="list-style-type: none"><li>• When a paper misfeed occurs</li></ul>
Setting/ procedure	<ol style="list-style-type: none"><li>1. Select the [TRAY1] or [TRAY2].</li><li>2. Press the Select key to begin testing paper feeding.</li><li>3. Press the Stop/Reset key to stop testing paper feeding.</li></ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• It cannot be operated at the time of warming up.</li><li>• Don't count.</li></ul>

14.7.2 PRN TEST PATTERN

A. PATTERN1

Function	<ul style="list-style-type: none"><li>• To print the test pattern for adjusting the image.</li></ul>
Use	<ul style="list-style-type: none"><li>• If there is tilt or when registration or zoom ratio adjustments are performed</li></ul>
Setting/ procedure	<ol style="list-style-type: none"><li>1. Select the [TRAY1] or [TRAY2].</li><li>2. Select the [PATTERN1].</li><li>3. Press the Select key to print the test pattern.</li></ol> <div></div> <div>4139F3C550DA</div>

B. PATTERN2

Function	<ul style="list-style-type: none"><li>• To print the test pattern for halftones and gradations.</li></ul>
Use	<ul style="list-style-type: none"><li>• When checking density and pitch irregularities</li><li>• When checking reproducibility of gradations</li></ul>
Setting/ procedure	<ol style="list-style-type: none"><li>1. Select the [TRAY1] or [TRAY2].</li><li>2. Select the [PATTERN2].</li><li>3. Press the Select key to print the test pattern.</li></ol> <div></div> <div>4139F3C551DA</div>

**14.7.3 ADF FEED TEST**

Function	<ul style="list-style-type: none"> <li>To check the paper feeding in the paper take-up/transport sections in the Automatic Document Feeder.</li> </ul>
Use	<ul style="list-style-type: none"> <li>When a document misfeed occurs</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>Load paper into the Automatic Document Feeder.</li> <li>Press the Select key to begin testing paper feeding.</li> <li>Press the Stop/Reset key to stop testing paper feeding.</li> </ol>

**14.7.4 COPY ADF GLASS**

Function	<ul style="list-style-type: none"> <li>To check for dirt in the scanning section of the Automatic Document Feeder.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If spots appear in the copies</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>Load A4S or LetterS paper into Tray1.</li> <li>Press the B&amp;W start key to make a monochrome copy.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>At this time, there is no need to place an original.</b></li> </ul> <ol style="list-style-type: none"> <li>Select [SERVICE MODE] - [FUNCTION] - [COPY ADF GLASS] and press the Select key.</li> <li>Two copy samples are fed out.</li> </ol> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li><b>The first copy is for checking scratches or contamination on the reading glass and the second copy is for checking noise caused by the printer.</b></li> </ul> <ol style="list-style-type: none"> <li>Check that no spots appear in the copy samples.</li> </ol>

**14.7.5 FAX RES. COPY TEST**

Function	<ul style="list-style-type: none"> <li>Fax resolution copy test</li> </ul>
Use	<ul style="list-style-type: none"> <li>To check whether the encoding/ decoding process is correct</li> </ul>
Setting/ procedure	<ul style="list-style-type: none"> <li>The paper source is fixed to Tray1. (Tray cannot be changed.)</li> <li>When A4 or Letter is not loaded in Tray1, operation of printing is not performed.</li> </ul>

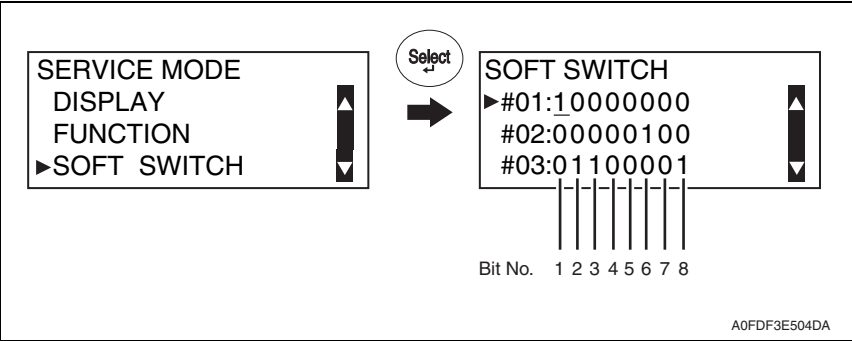
**14.7.6 SCAN TEST**

Function	<ul style="list-style-type: none"> <li>To check the lighting of the Exposure Lamp and the movement of the scanner.</li> </ul>
Use	<ul style="list-style-type: none"> <li>If the scanner malfunctions</li> </ul>
Setting/ procedure	<ol style="list-style-type: none"> <li>Press the Select key to begin the scanner test.</li> <li>Press the Stop/Reset key to stop the scanner test.</li> </ol>

14.8 SOFT SWITCH

NOTE

- This menu is used only for magicolor 1690MF.
- Refer to the chapter of soft switch for the explanation of soft switch.  
See P.155



14.8.1 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.

14.9 REPORT

14.9.1 SERVICE DATA LIST

Function	<ul style="list-style-type: none"><li>• Print service data list report and Error log history list.</li></ul>
Use	<p>Service Data list includes the following items:</p> <ul style="list-style-type: none"><li>• SOFT SWITCH</li><li>• COMMUNICATION HISTORY &amp; COUNTER</li><li>• ADJUST</li><li>• RX IN MEMORY</li><li>• ADMINISTRATOR PASSWORD</li><li>• MAIN RAM SIZE</li><li>• ROM ID</li></ul> <p>Error log history list includes the following items:</p> <ul style="list-style-type: none"><li>• Index: Index number from 0 - 9999</li><li>• Error: Error code number</li><li>• Maker: NSF frame maker code</li><li>• Tell.: Remote side or TX side telephone number for that transaction</li></ul>
Setting/ procedure	<ol style="list-style-type: none"><li>1. Enter the [SERVICE MODE].</li><li>2. Select [REPORT] and press the Select key.</li><li>3. Select [SERVICE DATA LIST] and press the Select key.</li></ol>

(1) SERVICE DATA LIST (example: magicolor 1680MF)

magicolor 1680MF  
magicolor 1690MF

△

SERVICE DATA LIST

-- ADJUST --

CIS MAIN ZOOM : 100

CIS SUB ZOOM : 100

CIS MAIN REGIST : 100

CIS SUB REGIST : 100

FLICKER : 0

TOP ADJUSTMENT

PLAIN PAPER : 0

THICK PAPER : 0

ENVELOPE : 0

LEFT ADJ FRONT TRAY1 : 0

LEFT ADJ BACK TRAY1 : 0

TRANSFER POWER

SIMPLEX PASS

PLAIN PAPER : 0

THICK1 : 0

THICK2 : 0

POSTCARD : 0

ENVELOPE : 0

LABEL : 0

IMAGE ADJ PARAM : 0

TEMPERATURE

PLAIN PAPER : 0

THICK PAPER : 0

ENVELOPE : 0

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- △ NOTE
- The value printed in the SERVICE DATA LIST (Part enclosed with red circle) is different from the actual setting value.
  - To confirm the actual setting value, see the following table.

△

Item	CIS MAIN ZOOM					
Setting value	-2.0	...	-0.2	0.0	0.2	2.0
Value on SERVICE DATA LIST	90	...	99	100	101	110

△

Item	CIS SUB ZOOM					
Setting value	-2.0	...	-0.2	0.0	0.2	2.0
Value on SERVICE DATA LIST	90	...	99	100	101	110

△

Item	CIS MAIN REGIST					
Setting value	-1.5	-1.00	-0.50	0.00	0.50	1.50
Value on SERVICE DATA LIST	85	90	95	100	105	115

△

Item	CIS SUB REGIST					
Setting value	-5.0	...	-0.5	0.0	0.5	5.0
Value on SERVICE DATA LIST	50	...	95	100	105	150

(2) SERVICE DATA LIST (example: magicolor 1690MF)

SERVICE DATA LIST

NAME:Amber A10  
TEL :1234567  
DATE:JUL.02.2005 11:55

--SOFT SWITCH --  
SW01-SW16 00 20 80 0C 00 00 07 61 00 81 00 80 10 00 01 03  
SW17-SW32 00 00 68 00 80 06 00 00 00 28 00 A7 14 68 00 00  
SW33-SW48 C0 82 10 8A 00 C1 00 08 00 00 00 04 00 06 00 89  
SW49-SW64 01 00 00 00 00 B0 00 00 00 00 00 21 0F 00 80 10

--COMMUNICATION HISTORY & COUNTER --  
000001: ECM RX TIME 000000: ECM TX TIME  
000008: 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 000001: V.27 2.4K  
000001: 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  
000027: V.34 RX TIME 000007: V.34 RX PAGE  
000002: 33.6K 000005: 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 000015: V.34 TX PAGE  
000000: 33.6K 000006: 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  
000007: JBIG TX TIME 000007: JBIG RX TIME  
000000: TOTAL COUNTER  
000849: COPY PRINT 000000: FAX PRINT  
000127: REPORT PRINT 000000: PC PRINT

-- ADJUST --  
CIS MAIN ZOOM : 0 LEFT ADJ BACK : 0 IMAGE ADJ PARAM : 0  
CIS SUB ZOOM : 0 TRAY1 : 0  
CIS MAIN REGIST : 0 TRAY2 : 0 TEMPERATURE : 0  
CIS SUB REGIST : 0 TRANSFER POWER : 0 PLAIN PAPER : 0  
ADF MAIN REGIST : 0 SIMPLEX PASS : 0 THICK PAPER : 0  
ADF SUB ZOOM : 0 PLAIN PAPER : 0 ENVELOPE : 0  
ADF SUB REGIST : 0 THICK1 : 0  
THICK2 : 0  
FLICKER : 0 POSTCARD : 0  
ENVELOPE : 0  
TOP ADJUSTMENT : 0 LABEL : 0  
PLAIN PAPER : 0 DUPLEX PASS : 0  
THICK PAPER : 0 PLAIN PAPER : 0  
ENVELOPE : 0  
LEFT ADJ FRONT  
TRAY1 : 0  
TRAY2 : 0  
RX IN MEMORY :  
ADMIN. PASSWORD : 000000  
MAIN RAM SIZE : 128Mb  
-- ROM ID --  
MAIN : 06/14/2007 V001  
BOOT : 07/16/2007 V0.03  
ENGINE: A00F-50F0-0302-00

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magicolor 1680MF  
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ADJUSTMENT/SETTING

**(3) 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

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14.9.2 ERROR CODE LIST

Function	• Print error code (CODE) and error occurrence time (ERROR TIMES).
Use	
Setting/ 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	00000000	0071	00000000	0072	00000000
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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ADJUSTMENT/SETTING



(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	OK

TX	RX
CM	ANS
CJ	JM
	NSF
	NSF
	CSI
DCS	DIS
	CFR
▶PIX	
PPS-EOP	
DCN	MCF

V.8 PROTOCOL DUMP

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  
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

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ADJUSTMENT/SETTING

## 14.10 ADMIN. REGISTRATION

Function	<ul style="list-style-type: none"> <li>Use to display or change the current Administrator number.</li> </ul>
Use	
Setting/ procedure	<ul style="list-style-type: none"> <li>Administrator number: 000000 to 999999</li> <li>1. Enter the [SERVICE MODE].</li> <li>2. Select [ADMIN. REGISTRATION] and press the Select key.</li> <li>3. Check that the current ADMIN. No. is displayed and then press the [Back] key.</li> <li>4. Enter the new ADMIN. No. from the 10-key pad and press the Select key.</li> </ul>

## 14.11 FIXED ZOOM CHANGE

Function	<ul style="list-style-type: none"> <li>The fixed zoom ratios can be changed.</li> </ul>
Use	
Setting/ procedure	<ol style="list-style-type: none"> <li>1. Enter the [SERVICE MODE].</li> <li>2. Select [FIXED ZOOM CHANGE] and press the Select key.</li> <li>3. Select the fixed zoom ratio that you wish to change and press the Select key.</li> <li>4. Use the 10-Key Pad to type in the desired fixed zoom ratio.</li> </ol>

- 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	81%	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%

## 14.12 FACTORY TEST

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

	Functions/Use
SIGNAL TEST	<ul style="list-style-type: none"> <li>This test is for factory adjustment only and should NOT be used.</li> </ul>
RELAY TEST	<ul style="list-style-type: none"> <li>This test is for factory adjustment only and should NOT be used.</li> </ul>
SENSOR TEST	<ul style="list-style-type: none"> <li>This test is for factory adjustment only and should NOT be used.</li> </ul>
DIAL TEST	<ul style="list-style-type: none"> <li>This test is for factory adjustment only and should NOT be used.</li> </ul>
VOLUME TEST	<ul style="list-style-type: none"> <li>To check the volume of the speaker.</li> </ul>
PANEL BUZZER TEST	<ul style="list-style-type: none"> <li>To check the operation of the display and all indicators and buttons.</li> <li>When the panel buzzer test are finish, press the panel reset key twice.</li> </ul>
RAM TEST	<ul style="list-style-type: none"> <li>To test reading and writing of the memory.</li> </ul>

14.13 CLEAR DATA

14.13.1 SRAM CLEAR



Function	To clear the settings for the functions listed at the right and return the functions to their default settings.
Use	<p>The following items are cleared (initialization).</p> <ul style="list-style-type: none"><li>• TX/RX RESULT</li><li>• REPORT<ul style="list-style-type: none"><li>TX RESULT REPORT</li><li>RX RESULT REPORT</li><li>ACTIVITY REPORT</li><li>MEMORY DATA LIST</li><li>MEMORY IMAGE PRINT</li><li>FAVORITE LIST</li><li>SPEED DIAL LIST</li><li>GROUP DIAL LIST</li></ul></li><li>• Initialization of ADMINISTRATOR NO.</li><li>• UTILITY mode</li><li>• [USER SERVICE MODE] of the user service mode: Set to default</li><li>• Only [SERVICE'S CHOICE], [SOFT SWITCH] and [FIXED ZOOM CHANGE] of the Service mode: Set to default</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• Before executing [SRAM CLEAR], be sure to record the setting values that are to be initialized through [SRAM CLEAR].</li><li>• For the record of the setting values, it is a good idea to have reports and lists printed.</li><li>• Some setting values are not included any of these reports or lists. Be sure to make a note of them separately.</li><li>• After [SRAM CLEAR] has been executed, make necessary entries of data again based on the setting values recorded.</li></ul>

14.13.2 MEMORY CLEAR

Function	To clear the settings for the functions listed at the right and return the functions to their default settings.
Use	<p>The following items are cleared (initialization).</p> <ul style="list-style-type: none"><li>• Only [SERVICE'S CHOICE] and [FIXED ZOOM CHANGE] of the Service mode: Set to default</li></ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>• Before executing [MEMORY CLEAR], be sure to record the setting values that are to be initialized through [MEMORY CLEAR].</li><li>• For the record of the setting values, it is a good idea to have reports and lists printed.</li><li>• Some setting values are not included any of these reports or lists. Be sure to make a note of them separately.</li><li>• After [MEMORY CLEAR] has been executed, make necessary entries of data again based on the setting values recorded.</li></ul>



15. SOFT SWITCH set

15.1 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.

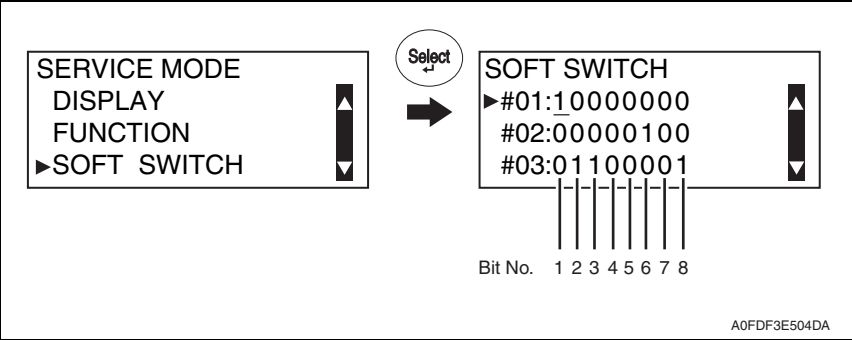
The default setting of soft switch is automatically changed according to the following settings.

- 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.

- [SOFT SWITCH] of [SERVICE MODE].

See P.145



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

15.2 Default setting

15.2.1 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].

See P.103

## 15.2.2 Soft switch list

Soft Switch No.	Bit No.	Designation	Page No.
#01	2/1	V.34 CI signal byte number	P.181
#02	8/7	Time between phase C to phase D signal in V.17	P.182
	6	Header TX selection open to user	
	3/2	Transmit RTN signal level criteria	
#03	8	Send out NSF frame with station ID	P.183
	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.184
	3	Audible alarm for RTN signal	
#05	8/7	Push button ON/OFF Timing (PB)	P.185
	6/5	Relation between 10 key # & No.of dial pulse	
	3	10PPS/20PPS	
	2/1	PPS ratio	
#06	8/7	Ring on time to ignore ring off time at 1st cycle	P.186
	4/3	Ring off time at 1st cycle to approve incoming ring	
#07	8	Dial tone or busy tone detection	P.186
	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.187
	6	Sending CED signal after connection	
#09	8/7	Ringer frequency detection	P.187
	5	TSI/CSI append "+"	
	2/1	Time from RX DIS signal to send DCS signal	
#10	8	Print out RTN page report	P.188
	7	Confirmation report result field	
	6/5	Get gap time between digit for pulse dial	
	4	RX PIP T.30 command after send out MPS command	
	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.189
	6	Pulse dial allowed to select	
	5	Protocol signal display mode	
	2	USB port number fixed	
	1	DTMF low frequency compensation	

Soft Switch No.	Bit No.	Designation	Page No.
#12	8	ECM mode capability	P.190
	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.191
	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.191
	3/2/1	Time between V.34 ANSam signal and FSK DIS signal	
#15	8	IPSEL1	P.192
	7	DCSEL	
	6	DCCLIM	
#16	2/1	Fax communication coding method	P.192
#17	6	CED frequency	P.193
	5/4/3	Pause between off hook and CED signal	
	2/1	Inactivity timer [T5]	
#18	6/5	G3 mode training quality level	P.194
	4/3/2/1	Redefine re-dial attempts counter	
#19	8/7/6/5	CNG signal level	P.195
	4/3/2/1	DTMF high frequency level	
#20	—	Reserved	P.195
#21	8	NSS signal before DCS	P.196
	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.197
#23	4/3/2/1	DTMF low frequency level	P.197
#24	7/6/5/4/ 3/2/1	Re-dial interval	P.198
#25	4/3	Flash key time	P.200
#26	8/7	Dial tone detection time before disconnected	P.201
#27	—	Reserved	P.201
#28	8/7/6/5	Time to dial after dial tone on the line	P.202
	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.203

Soft Switch No.	Bit No.	Designation	Page No.
#30	8/7	Pause delay time within digits	P.204
	6/5/4/3/2/1	Signal tone insensitivity (dBm) after dial for busy tone	
#31	7/6/5	Min re-dial interval	P.205
	4/3/2/1	Max. re-dial attempts	
#32	—	Reserved	P.205
#33	7	V.17 Echo protection tone	P.206
	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.206
#35	8/7	Dial tone table switch time	P.207
	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.208
	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.209
	6/5/4	RX start symbol rate for V.34 modem	
	3/2/1	TX start symbol rate for V.34 modem	
#38	7	Set/Reset V.34 transmit level deviation	P.209
	6/5	V.34 flag number between ECM frame	
	4	Phase 2 guard tone power level (V.34)	
	1	V.8 /V.34 capability	
#39	8	Disable V.34 TX for V.34 modem	P.210
	7	Disable V.34 RX for V.34 modem	
	6/5	Flags number in FSK frame 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.211
	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.212
	3/2/1	V.34 TX start speed prohibit V.34 mode when upper speed less	
#42	8/7/6/5/4/3/2/1	Reserved	P.213
#43	8/7/6/5/4/3/2/1	Reserved	P.213
#44	—	Reserved	P.213

Soft Switch No.	Bit No.	Designation	Page No.
#45	5	Call transfer	P.214
	4/3/2/1	No. of call transfer	
#46	8	Daylight savings timer	P.214
	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.215
	5	Footer	
#48	8	Activity report	P.215
	7/6	TX result report	
	5/4	RX result report	
#49	5	Re-dial method if Comm. Fail	P.216
	4/3/2/1	No. of rings	
#50	8	Transmit or cancel after time out in "Memory TX"	P.216
#51	4/3	T30 monitor report selection	P.217
	2	Send unsent page mode for memory transmission	
#52	—	Reserved	P.217
#53	—	Reserved	P.218
#54	8	Report Date/Time type	P.218
	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	—	Reserved	P.219
#56	—	Reserved	P.219
#57	—	Reserved	P.219
#58	8	Time out from PSK to FSK delay time	P.220
#59	6/5/4/ 3/2/1	Time Between GMT (Greenwich Mean Time)	P.221
#60	6	Quick memory TX	P.224
	2	Off hook alarm after communication	
	1	Display destination selection within TX phase C	
#61	4/3/2/1	Max. No. of ring	P.224
#62	—	Reserved	P.225
#63	8	"#" key definition in PBX mode	P.225
	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.226
	5	10 PPS & 20 PPS selectable by user	

15.2.3 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	1	0	0	0	0	0	0	0				
#02	0	0	0	0	0	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			
#03	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	1			
#04	0	0	1	1	0	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			
#05	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	1	0	0			
#07	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	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	0	0			
#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	1	0	0	0	0	0			
#10	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	1	1	1	1	1	0	1	0	1			
#11	0	0	0	0	0	1	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			
#12	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1			
#13	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0		
#14	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	0	0	0		
#15	0	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	1			
#16	1	1	0	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	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		
#18	1	0	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		
#19	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	0	1	1	0	0	0	1	0	1	1	0	0		
#20	0	0	0	0	0	0	0	0	0	0	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	1	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		
#22	0	1	1	0	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	0	0	0		
#23	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0		
#24	0	1	0	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		
#25	0	0	0	0	0	0	0	0	0	0	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		
#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		
#28	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	
#29	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
#30	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	1	0	1	0	1	0	0	0	
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	0	
#32	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	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	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0
#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	1	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	

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	
#39	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	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	1	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
#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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	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	
#63	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	

ADJUSTMENT/SETTING

B. Market area 2

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			
#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	1	0	0	0	0	0	0	0			
#02	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	0	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	0	1	0	1	1	0	0	0	0	0	1		
#04	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	1	1	0	0	0	0	0		
#05	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	1	0		
#07	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0		
#08	0	0	0	0	0	1	1	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	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	0	0	0	0	0		
#10	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	1	1	0	0	0	0	1	0	1		
#11	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	1	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	1	0	0	0	0	0	0	0	0	1		
#13	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	
#14	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	1	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	
#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	1	1	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	
#18	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	0	0	0	0	0	0	0	0	
#19	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	1	0	
#20	0	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	0	0	0	1	0	0
#22	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	1	1	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
#24	0	1	0	0	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	
#25	0	0	0	0	0	0	0	0	0	0	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	
#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	
#28	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1	
#29	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	0	0	1	0	1	0	0	0	0	
#30	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	1	0	1	1	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	1	0	1	0	1	0	0	0	0
#32	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	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	
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	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	1	0	0	0	0	1	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	
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

## ADJUSTMENT/SETTING

[illegible]

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	1	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	1	0	0	
#03	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1
#04	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
#05	1	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0
#07	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	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	0	1	1	0	0	0	0	0	1	1	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	1	0	0	0	0
#10	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1
#11	0	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
#12	0	0	0	0	1	0	0	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
#13	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0
#14	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	0	0
#15	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	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	1	1	0	0	0	0	0	0	1	1	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
#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	1	0	0	0	0	0	0
#19	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	0
#20	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1
#22	0	1	1	0	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
#23	0	0	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	1	0	0	0	0	0
#24	1	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	1	0	0	0	0	0
#25	0	0	0	0	0	0	0	0	0	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
#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
#28	1	1	1	0	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	0	1	0	1	0	0
#29	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	0	0	1	0	1	0	0	0
#30	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	1	0	1	1	0	0
#31	0	1	0	1	1	0	1	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0
#32	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	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	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	0	1	0	1	0
#36	0	1	0	1	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	0	0	1
#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
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	1	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
#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	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	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	
#63	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	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	

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	1	0	0	0	0	0	0	0
#02	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	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	1	1
#04	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	1	1	0	0	0	0
#05	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0
#07	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1
#08	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	1
#09	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	1	0	0	0	0
#10	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	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	1	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	1	0	0	0	0	1	0	0	1	0	0	0	0	1
#13	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	0	1	0	1	0	0	0
#14	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	1	0	0	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	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	1	1	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
#18	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	1	0	0	0	0	0
#19	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0
#20	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	1	1	0
#22	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	1	1	0	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	1	1	0	0	0	0
#24	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	1	0	0	0	0	0
#25	0	0	0	0	0	0	0	0	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
#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
#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	0
#29	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	0	0	1	0	1	0	0
#30	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	1	0	1	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	1	0	1	0	1	0
#32	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	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
#35	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0
#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	1	0	0	0	1
#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
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	0
#49	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	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0
#55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	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
#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	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	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	
#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	

ADJUSTMENT/SETTING

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	1	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	1	0	0	
#03	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1	1
#04	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
#05	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0
#07	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	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	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	1	0	0	0	0	0	0	0	1	0	0	0	0
#10	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1
#11	0	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
#12	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	1	0	0	0	0	1
#13	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0
#14	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	0	0
#15	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	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	1	1	0	0	0	0	0	0	1	1	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
#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	0	0
#19	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	0
#20	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	1	1	0	0
#22	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0
#23	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	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	1	0	0	0	0	0
#25	0	0	0	0	0	0	0	0	0	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
#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
#28	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	0
#29	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0
#30	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	1	0	1	1	0	0
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0
#32	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	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
#35	0	0	0	0	1	0	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	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	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	0	0
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	0	
#49	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	0	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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
#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	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	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	1	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	

ADJUSTMENT/SETTING

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	1	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	1	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	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1
#04	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	1	1	0	0	0
#05	0	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	1	0	0	0	0	0
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	1
#07	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0
#08	0	0	0	0	0	1	1	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
#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
#10	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	1	0	0	0	0	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
#12	0	0	1	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
#13	0	0	1	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	0	0	0
#14	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	1	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
#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	1	1	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
#18	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	1	0	0	0	0	0
#19	1	1	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	1	0	1	1	0
#20	0	0	0	0	0	0	0	0	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	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0
#22	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	1	1	0	0	0	0
#23	0	1	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
#24	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	1	0	0	0	0	0
#25	0	0	0	0	0	0	0	0	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
#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
#28	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1
#29	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	0	0	1	0	1	0	0
#30	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	1	0	1	1	0
#31	0	1	0	1	0	1	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	1	0
#32	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	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
#35	0	0	0	0	0	1	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	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	1	0	0	0	1
#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
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	0
#49	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	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	1	0	1	0	1	0	1
#55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	0	0	0	1	0	0	1	0	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	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	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	
#63	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	

ADJUSTMENT/SETTING

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	1	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	1	0	0	0	
#03	0	1	1	0	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	1	
#04	0	0	1	1	0	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	
#05	0	1	0	0	0	0	0	1	1	0	0	0	0	1	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	
#06	0	0	1	1	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	0	1	0	
#07	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	
#08	0	0	0	0	0	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	1	
#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	
#10	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	1	0	1	
#11	1	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	
#12	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
#13	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	
#14	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	1	0	0	0	0	0	
#15	0	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	
#16	1	1	0	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	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	
#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	0	0	
#19	1	1	0	1	0	1	1	0	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0	0	0	0	1	0	1	1	1	0	
#20	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	0	1	1	0	0
#22	0	1	1	0	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	0	0	0
#23	0	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
#25	0	0	0	0	0	0	0	0	0	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	
#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	
#28	1	1	1	0	1	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	0
#29	0	0	1	0	1	0	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
#30	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	1	0	1	1	1	0
#31	0	1	0	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1	0	1	0	1	0
#32	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	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	
#35	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	1	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	1	0	0	0	1	0	1
#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	
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	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	0	
#49	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1
#55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	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	1	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	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	

ADJUSTMENT/SETTING

## H. Market area 8

[illegible]

magicolor 1680MF  
magicolor 1690MF

## ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	1
#49	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	0	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1
#55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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
#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	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
#02	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	1	0	0	0		
#03	0	1	1	0	0	0	0	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	1	1		
#04	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	1	1	0	0	0	0		
#05	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	1	0	0	1	0	0	1	0	0	1	1	0	0	1	0	
#07	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	
#08	0	0	0	0	0	1	1	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	
#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	1	0	0	0	0		
#10	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	0	1	1	1	1	
#11	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	1	0	0	0	0	0	0	0	
#12	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	
#13	0	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	
#14	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	1	0	0	0	0	0	
#15	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	0	0	0	0	0	0	1	0	
#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	1	1	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	
#18	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	1	0	0	0	0	0	
#19	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	
#20	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	1	1	0	0	
#22	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	1	1	0	0	0	0	0	
#23	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
#24	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	1	0	0	0	0	0	
#25	0	0	0	0	0	0	0	0	0	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	
#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	
#28	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	0
#29	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	0	0	1	0	1	0	0	0	0
#30	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	1	0	0	0	1	0	1	1	0	0	0
#31	0	1	0	1	0	1	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	0	0
#32	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	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	
#35	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	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	1	0	0	0	1	0	1
#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	
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	1	1	0	0	0	0

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

magicolor 1680MF  
magicolor 1690MF

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	1	0	0	0	0	0	0	0	1	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	1	0	1	0	0	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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
#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	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	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	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	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	
#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	

## 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	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
#02	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	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	0	1	0	1	1	0	0	0	1	1	
#04	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	1	1	0	0	0	0	
#05	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	
#06	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	1	
#07	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	
#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	1	0	0	0	0	0	
#10	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0	0	1	0	1	1	1	1	1	1	0	1	1	
#11	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	
#12	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	
#13	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	
#14	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	
#15	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	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	1	1	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	
#18	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	1	0	0	0	0	0	
#19	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	1	0	1	0	1	0	
#20	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	1	1	0	
#22	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	1	0	0	0	0	0	
#23	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	
#24	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	
#25	0	0	0	0	0	0	0	0	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	
#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	
#28	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1	0	1	1	1	0	0	1	0	1	1	1	1	1	0	1	0	1	0
#29	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	0	0	0	1	0	0	0	0
#30	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	1	0	1	1	0	0
#31	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	1	0	0	1	0	1	0	1	0	0
#32	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	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	
#35	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	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	0	1	0	1	0	0	0	0	1	
#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	
#38	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	1	0	1	0	0	0	1	1	0

magicolor 1680MF  
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## ADJUSTMENT/SETTING

magicolor 1680MF  
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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	1	0	0	0	0	0	0	0	1	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	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	1	
#49	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	0	0	0	0	0	0	0	0		
#50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	
#55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
#56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	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	0	
#61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	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	1	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	

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	1	0	0
#03	0	1	1	0	0	0	1	1
#04	0	0	1	1	0	0	0	0
#05	1	0	0	0	0	0	1	1
#06	0	0	1	1	0	0	1	0
#07	0	0	0	1	0	0	0	1
#08	0	0	0	0	0	1	1	0
#09	0	0	0	0	1	0	0	0
#10	1	1	1	1	0	1	1	1
#11	1	0	0	0	0	0	0	0
#12	0	0	0	0	0	0	0	1
#13	0	0	1	0	1	0	0	0
#14	0	1	0	0	0	0	0	0
#15	0	0	0	0	1	1	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	1	0	0	1	1	0
#20	0	0	0	0	0	0	0	0
#21	0	0	0	0	0	0	1	1
#22	0	1	1	0	0	0	0	0
#23	1	1	0	0	0	0	0	0
#24	0	1	0	0	0	0	0	0
#25	0	0	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	1	0	1	0	0	0
#30	0	0	0	1	0	1	1	0
#31	0	1	0	1	0	1	0	0
#32	0	0	0	0	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	1	0

magicolor 1680MF  
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ADJUSTMENT/SETTING


magicolor 1680MF  
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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	0	0	0	0	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	0	0	0	0	0	0	0	0
#57	0	0	0	0	0	0	0	0
#58	0	0	0	0	0	0	0	0
#59	0	1	1	1	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

ADJUSTMENT/SETTING

15.3 Soft switch definition

NOTE

 : Default settings of U.S.

15.3.1 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			0																
2	V.34 CI signal byte number	<table><tr><td>Byte number</td><td>30 bytes</td><td>15 bytes</td><td>9 bytes</td><td>60 bytes</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>	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	1
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																

magicolor 1680MF  
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ADJUSTMENT/SETTING

## 15.3.2 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><tr><td>RX Insensitivity</td><td>70 ms</td><td>120 ms</td><td>180 ms</td><td>60 ms</td></tr></table>	RX Insensitivity	70 ms	120 ms	180 ms	60 ms	0	0			
RX Insensitivity		70 ms	120 ms	180 ms	60 ms							
7		<table><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>	Bit No. 8	0	0	1	1	Bit No. 7		0	1	0
Bit No. 8	0	0	1	1								
Bit No. 7	0	1	0	1								
6	0: No 1: Yes			0								
5	Reserved	Reserved	0	0								
4			0									
3	Transmit RTN signal level criteria	<table><tr><td>Percentage of error line</td><td>10%</td><td>15%</td><td>20%</td><td>25%</td></tr></table>	Percentage of error line		10%	15%	20%	25%	0	0		
Percentage of error line		10%	15%	20%	25%							
2		<table><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>	Bit No. 3	0	0	1	1	Bit No. 2	0		1	0
Bit No. 3	0	0	1	1								
Bit No. 2	0	1	0	1								
1	Reserved	Reserved	0									

- Bit 2-3: In G3 mode, if error line for each page, machine will send RTN instead of RTN, in this case, some machine will resend the same page again. The retry times depend on other end.
- Bit 6: If this bit set to "0", the header select function can not change by user, only changeable by serviceman in service mode.

15.3.3 SOFT SWITCH: #03

Bit No.	Designation	Function	Initial Setting																														
			Bit	HEX																													
8	Send out NSF frame with station ID	1: Yes	1	8																													
		0: No																															
7	Number of Pause within phone number	0: No any limitation	0																														
		1: Max. up to 2 “P” within inputted telephone number																															
6	Re-dial prohibit for NO ANSWER	0: Continue to dial	0																														
		1: Not allowed to re-dial if no any FAX signal or detected busy tone after dialing																															
5	Reserved	Reserved	0																														
4	RX level setting	<table><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
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><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><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><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.

15.3.4 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: Yes - display message while sending / receiving RTN signal (RTN= Retrain Negative).	1	C
3	Audible alarm for RTN signal	0: No 1: Yes - alarm for sending or receiving RTN signal.	1	
2	Reserved	Reserved	0	
1			0	

- Bit 3: The duration of alarm last 3 second after detect negative signal in G3 mode.
- Bit 4: The display message will keep on LCD 3 seconds or until next incoming T30 signal.

15.3.5 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		
6	Relation between 10 key # & No.of dial pulse	#1 1 2 9	0	0
5		#2 2 3 8		
		#3 3 4 7		
		#4 4 5 6		
		#5 5 6 5		
		#6 6 7 4	Reserved	
		#7 7 8 3		
		#8 8 9 2		
		#9 9 10 1		
		#0 10 1 10		
		Bit No. 6 0 0 1 1		
		Bit No. 5 0 1 0 1		
4	Reserved	Reserved	0	
3	10PPS/20PPS	0: 10PPS	0	
		1: 20PPS		
2	PPS ratio	PPS ratio (%) 33 40 30 Reserved	0	0
1		Bit No. 2 0 0 1 1	0	
		Bit No. 1 0 1 0 1		

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ADJUSTMENT/SETTING

**15.3.6 SOFT SWITCH: #06**

Bit No.	Designation	Function					Initial Setting	
							Bit	HEX
8	Ring on time to ignore ring off time at 1st cycle	Timing (ms)	50 ms	100 ms	150 ms	800 ms	0	4
7		Bit No. 8	0	0	1	1	1	
		Bit No. 7	0	1	0	1		
6	Reserved	Reserved					0	
5							0	
4	Ring off time at 1st cycle to approve incoming ring	Timing (ms)	100 ms	250 ms	500 ms	1000 ms	1	C
3		Bit No. 4	0	0	1	1	1	
		Bit No. 3	0	1	0	1		
2	Reserved	Reserved					0	
1							0	

**15.3.7 SOFT SWITCH: #07**

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Dial tone or busy tone detection	0: Disable 1: Enable - Detect dial tone before dial	0	0
7	PSTN/PBX setting	0: PSTN 1: PBX - Select PBX line type	0	
6	PBX dial tone detect	0: Not to detect dial tone before pre-fix number 1: Detect dial tone before the pre-fix number in PBX mode	0	
5	Dial mode select	0: DTMF - PB 1: Pulse - DP	0	7
4	TX level select for PSK/FSK	Level (dBm)    -17    -16    -15    -14    -13    -12    -11    -10 Bit No. 4    0    0    0    0    0    0    0    0	0	
3		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	
2		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	
1			1	

**15.3.8 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	0
4			0	
3			0	
2			0	
1			0	

**15.3.9 SOFT SWITCH: #09**

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Ringer frequency detection	<table><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	0	0															
4		1: Automatically insert “+”	0																
3	Reserved	Reserved	0																
2			0																
1	Time from RX DIS signal to send DCS signal	<table><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															
	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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ADJUSTMENT/SETTING

**15.3.10 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		1														
		<table><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
Value (ms)		550	650		750	850											
Bit No. 6		0	0		1	1											
Bit No. 5		0	1		0	1											
5		0															
4	RX PIP T.30 command after send out MPS command	0: Send DCS at current speed	0														
		1: Return to Tx phase B waiting for DIS signal															
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	1: Limit to 8 minutes from data phase	0														
		0: No any limitation until document jam															
1	Audio alarm after communication fail	0: Not to alarm after transaction fail	1														
		1: Alarm 3 seconds 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.

**15.3.11 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	0	
6	Pulse dial allowed to select	0: Yes	1	
		1: Not allowed	1	
5	Protocol signal display mode	0: Not to display	0	0
		1: Display V8 or T30 command within communication.	0	
4	Reserved	Reserved	0	
3			0	
2	USB port number fixed	0: OFF	0	
		1: ON	0	
1	DTMF low frequency compensation	0: Base on SW23 (1 to 4)	0	
		1: High 0.5 dB	0	

- 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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ADJUSTMENT/SETTING

15.3.12 SOFT SWITCH: #12

Bit No.	Designation	Function	Initial Setting																		
			Bit	HEX																	
8	ECM mode capability	1: Yes 0: No - also disable V.34 modem capability		1	8																
7	V.34 fall back counter for V.34 TX	<table><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																
4	Reserved	Reserved			0																
3	Send EOR after low-est speed	0: Send DCN (Re-dial) 1: Send EOR_xxx [Germany PTT]			0																
2	TCF transmission tim- ing after DCS signal	<table><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 1-2: Delay time from FSK mode to PSK mode, this use for G3 mode only, V.34 do not need this setting.
- Bit 6-7: If counter equal "1", machine will down to next lower speed for next data phase.

## 15.3.13 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><tr><td>Description (sec)</td><td>20</td><td>60</td><td>120</td><td>240</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>	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)	1: No - send DIS again 0: Yes	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.

## 15.3.14 SOFT SWITCH: #14

Bit No.	Designation	Function	Initial Setting																																					
			Bit	HEX																																				
8	Reserved	Reserved	0	0																																				
7			0																																					
6	Memory size level to RX	1: Up to 128 KB 0: Base on system configuration	0																																					
5	Reserved	Reserved	0																																					
4			0	2																																				
3	Time between V.34 ANSam signal and FSK DIS signal	<table><tr><td>Timer (ms)</td><td>430</td><td>440</td><td>450</td><td>460</td><td>470</td><td>480</td><td>490</td><td>500</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>	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																																							
1			0																																					

- Bit 6: If set to 1, machine will become manual RX mode if available memory size less than 128 K.

15.3.15 SOFT SWITCH: #15

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	IPSEL1	0: Close the IPSEL1 port	0	0
		1: Active the IPSEL1 port		
7	DCSEL	0: Close the DCSEL port	0	
		1: Active the DCSEL port		
6	DCLIM	0: Close the DCLIM port	0	
		1: Active the DCLIM port		
5	Reserved	Reserved	0	0
4			0	
3			0	
2			0	
1			0	

15.3.16 SOFT SWITCH: #16

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7			0																
6			0																
5			0																
4			0																
3			0																
2	Fax communication coding method	<table><tr><td>Coding method</td><td>MMR</td><td>MR</td><td>MH</td><td>JBIG</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>	Coding method	MMR	MR	MH	JBIG	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	1	3
Coding method		MMR	MR	MH	JBIG														
Bit No. 2		0	0	1	1														
Bit No. 1	0	1	0	1															
1			1																

15.3.17 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><tr><td>Time (T)</td><td>T=1.8 sec to 2.5 sec</td><td>T+ 100 ms</td><td>T+ 200 ms</td><td>T+ 300 ms</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>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>	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><tr><td>Bit No. 5</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>	Bit No. 5	0	0	1	1	Bit No. 3	0	1	0	1	0										
Bit No. 5	0	0	1	1																			
Bit No. 3	0	1	0	1																			
3	<table><tr><td>Time (T)</td><td>T+ 400 ms</td><td>T+ 500 ms</td><td>T+ 600 ms</td><td>T+ 700 ms</td></tr><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></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																			
2	Inactivity timer [T5]	<table><tr><td>Description</td><td>T5</td><td>T5 + 20 sec</td><td>T5 + 40 sec</td><td>T5 + 60 sec</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	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																			
1	<table><tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Bit No. 1	0	1	0	1	0																
Bit No. 1	0	1	0	1																			

- T5: 60 ± 5 sec. in ITU-T standard

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15.3.18 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><tr><td>Definition</td><td>Level1</td><td>Level2</td><td>Level3</td><td>Level4</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>	Definition		Level1	Level2	Level3	Level4	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0	1	0																																								
Definition		Level1	Level2	Level3	Level4																																																						
Bit No. 6		0	0	1	1																																																						
Bit No. 5	0	1	0	1																																																							
5			0																																																								
4	Redefine re-dial attempts counter	<table><tr><td>Counter</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><td>10</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>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></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><tr><td>Counter</td><td colspan="5">Reserved</td></tr><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></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 5-6: 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.

15.3.19 SOFT SWITCH: #19

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	CNG signal level	<table><tr><td>Level (dBm)</td><td>-17</td><td>-16</td><td>-15</td><td>-14</td><td>-13</td><td>-12</td><td>-11</td><td>-10</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>	Level (dBm)	-17	-16	-15	-14	-13	-12	-11	-10	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	0	6
Level (dBm)		-17	-16	-15	-14	-13	-12	-11	-10																																								
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		<table><tr><td>Level (dBm)</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</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>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	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	
Level (dBm)		-9	-8	-7	-6	-5	-4	-3	-2																																								
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Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2																																									
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																																									
5	<table><tr><td>Level (dBm)</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</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>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	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	0		
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Bit No. 6	0	0	1	1	0	0	1	1																																									
Bit No. 5	0	1	0	1	0	1	0	1																																									
4	DTMF high frequency level	<table><tr><td>Level (dBm)</td><td>-17</td><td>-16</td><td>-15</td><td>-14</td><td>-13</td><td>-12</td><td>-11</td><td>-10</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>	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	1	8
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><tr><td>Level (dBm)</td><td>-17</td><td>-16</td><td>-15</td><td>-14</td><td>-13</td><td>-12</td><td>-11</td><td>-10</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>	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	
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2	<table><tr><td>Level (dBm)</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</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>	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	0		
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	<table><tr><td>Level (dBm)</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</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>	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	0		
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																																									

15.3.20 SOFT SWITCH: #20

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	

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

15.3.21 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	<table><tr><td>Duration (unit=sec)</td><td>40</td><td>60</td><td>70</td><td>120</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>	Duration (unit=sec)		40	60	70	120	Bit No. 7	0	0	1	1	Bit No. 6	0	1	0	1	0
Duration (unit=sec)		40	60		70	120													
Bit No. 7		0	0		1	1													
Bit No. 6	0	1	0		1														
6			0																
5	T4 timer	0: 3.0 sec. Normal case 1: 4.5 sec.	0																
4	VOIP (Voice over IP)	0: Disable 1: Enable	0																
3	DIS signal length	0: Normal length (Bit 1 to 64) 1: 4 bytes DIS command. bit 1 to 32 only	0	0															
2	Increase default T1 timing during calling (Only for TX function)	<table><tr><td>Description (sec)</td><td>T1</td><td>T1 + 30</td><td>T1 + 40</td><td>T1 + 60</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 (sec)		T1	T1 + 30	T1 + 40	T1 + 60	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0
Description (sec)		T1	T1 + 30		T1 + 40	T1 + 60													
Bit No. 2	0	0	1	1															
Bit No. 1	0	1	0	1															
1			0																

- Bit 1-2: 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.
- 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 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.

15.3.22 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><tr><td>Level (dBm)</td><td>-17</td><td>-16</td><td>-15</td><td>-14</td><td>-13</td><td>-12</td><td>-11</td><td>-10</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>	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	6
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><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>	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																			
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		<table><tr><td>Level (dBm)</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</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>	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																																									
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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																																									
1	<table><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>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>	Bit No. 3	0	0	1	1	0	0	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																				
Bit No. 3	0	0	1	1	0	0	1	1																																									
Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									

15.3.23 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><tr><td>Level (dBm)</td><td>-15</td><td>-14</td><td>-13</td><td>-12</td><td>-11</td><td>-10</td><td>-9</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>	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><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>	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																			
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		<table><tr><td>Level (dBm)</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</td><td>-1</td><td>0</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>	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	0	
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	<table><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>	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																				
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																																									

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

15.3.24 SOFT SWITCH: #24 (Part 1)

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	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		
		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		
Interval (min.) 11 12 13 14 15 16 17 18 19 20				
Bit No. 7 0 0 0 0 0 0 0 0 0				
Bit No. 6 0 0 0 0 0 0 0 0 0				
Bit No. 5 0 0 0 0 0 1 1 1 1				
Bit No. 4 1 1 1 1 1 0 0 0 0				
Bit No. 3 0 1 1 1 1 0 0 0 1				
Bit No. 2 1 0 0 1 1 0 0 1 1		0		
Bit No. 1 1 0 1 0 1 0 1 0 1				
Interval (min.) 21 22 23 24 25 26 27 28 29 30				
Bit No. 7 0 0 0 0 0 0 0 0 0				
Bit No. 6 0 0 0 0 0 0 0 0 0				
Bit No. 5 1 1 1 1 1 1 1 1 1				
Bit No. 4 0 0 0 1 1 1 1 1 1				
Bit No. 3 1 1 1 0 0 0 0 1 1		0		
Bit No. 2 0 1 1 0 0 1 1 0 0				
Bit No. 1 1 0 1 0 1 0 1 0 1				
Interval (min.) 31 32 33 34 35 36 37 38 39 40				
Bit No. 7 0 0 0 0 0 0 0 0 0				
Bit No. 6 0 1 1 1 1 1 1 1 1				
Bit No. 5 1 0 0 0 0 0 0 0 0				
Bit No. 4 1 0 0 0 0 0 0 0 1		0		
Bit No. 3 1 0 0 0 0 1 1 1 1				
Bit No. 2 1 0 0 1 1 0 0 1 1				
Bit No. 1 1 0 1 0 1 0 1 0 1				
Interval (min.) 41 42 43 44 45 46 47 48 49 50				
Bit No. 7 0 0 0 0 0 0 0 0 0				
Bit No. 6 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				
Bit No. 3 0 0 0 1 1 1 1 0 0				
Bit No. 2 0 1 1 0 0 1 1 0 0				
Bit No. 1 1 0 1 0 1 0 1 0 1				
Interval (min.) 51 52 53 54 55 56 57 58 59 60				
Bit No. 7 0 0 0 0 0 0 0 0 0				
Bit No. 6 1 1 1 1 1 1 1 1 1		0		
Bit No. 5 0 0 0 0 0 0 0 1 1				
Bit No. 4 1 1 1 1 1 1 1 0 0				
Bit No. 3 0 0 0 1 1 1 1 0 0				
Bit No. 2 0 1 1 0 0 1 1 0 0				
Bit No. 1 1 0 1 0 1 0 1 0 1				
Interval (min.) 61 62 63 64 65 66 67 68 69 70				

## 15.3.25 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
		Bit No. 3	0	1	1	1	1	0	0	0	0	0			1
		Bit No. 2	1	0	0	1	1	0	0	1	1	1			0
		Bit No. 1	1	0	1	0	1	0	1	0	1	0			0
6		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			1
		Bit No. 6	1	1	1	0	0	0	0	0	0	0			0
		Bit No. 5	1	1	1	0	0	0	0	0	0	0			0
		Bit No. 4	1	1	1	0	0	0	0	0	0	0			0
		Bit No. 3	1	1	1	0	0	0	0	1	1	1			1
		Bit No. 2	0	1	1	0	0	1	1	0	0	0			1
		Bit No. 1	1	0	1	0	1	0	1	0	1	0			0
5		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			1
		Bit No. 6	0	0	0	0	0	0	0	0	0	0			0
		Bit No. 5	0	0	0	0	0	0	0	0	0	0			1
		Bit No. 4	0	1	1	1	1	1	1	1	1	1			0
		Bit No. 3	1	0	0	0	0	1	1	1	1	1			0
		Bit No. 2	1	0	0	1	1	0	0	1	1	1			0
		Bit No. 1	1	0	1	0	1	0	1	0	1	0			0
4	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		1		
	Bit No. 6	0	0	0	0	0	0	0	0	0	0		0		
	Bit No. 5	1	1	1	1	1	1	1	1	1	1		1		
	Bit No. 4	0	0	0	0	0	0	0	1	1	1		1		
	Bit No. 3	0	0	0	1	1	1	1	0	0	0		0		
	Bit No. 2	0	1	1	0	0	1	1	0	0	0		1		
	Bit No. 1	1	0	1	0	1	0	1	0	1	0		0		
3	Interval (min.)	91	92	93	94	95	96	97	98	99	1				
	Bit No. 7	1	1	1	1	1	1	1	1	1		1	1		
	Bit No. 6	0	0	0	0	0	0	1	1	1		1	1		
	Bit No. 5	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 4	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 3	0	1	1	1	1	0	0	0	0		0	0		
	Bit No. 2	1	0	0	1	1	0	0	1	1		1	1		
	Bit No. 1	1	0	1	0	1	0	1	0	1		0	1		
2	Interval (min.)	91	92	93	94	95	96	97	98	99	0				
	Bit No. 7	1	1	1	1	1	1	1	1	1		1	1		
	Bit No. 6	0	0	0	0	0	0	1	1	1		1	1		
	Bit No. 5	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 4	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 3	0	1	1	1	1	0	0	0	0		0	0		
	Bit No. 2	1	0	0	1	1	0	0	1	1		1	1		
	Bit No. 1	1	0	1	0	1	0	1	0	1		0	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		1	1		
	Bit No. 6	0	0	0	0	0	0	1	1	1		1	1		
	Bit No. 5	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 4	1	1	1	1	1	0	0	0	0		0	0		
	Bit No. 3	0	1	1	1	1	0	0	0	0		0	0		
	Bit No. 2	1	0	0	1	1	0	0	1	1		1	1		
	Bit No. 1	1	0	1	0	1	0	1	0	1		0	1		

magicolor 1680MF  
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ADJUSTMENT/SETTING

15.3.26 SOFT SWITCH: #24 (Part 3)

Bit No.	Designation	Function	Initial Setting																																																								
			Bit	HEX																																																							
7	Re-dial interval	<table><tr><td>Interval (min.)</td><td colspan="10">Reserved</td></tr><tr><td>Bit No. 7</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. 6</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></table>	Interval (min.)	Reserved										Bit No. 7	1	1	1	1	1	1	1	1	1	1	Bit No. 6	1	1	1	1	1	1	1	1	1	1	0	2																						
Interval (min.)		Reserved																																																									
Bit No. 7		1	1	1	1	1	1	1	1	1	1																																																
Bit No. 6		1	1	1	1	1	1	1	1	1	1																																																
6		<table><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>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>	Bit No. 5	0	0	0	0	0	0	0	0	0	0	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	0
Bit No. 5		0	0	0	0	0	0	0	0	0	0																																																
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																																																
5		<table><tr><td>Interval (min.)</td><td colspan="10">Reserved</td></tr><tr><td>Bit No. 7</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. 6</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></table>	Interval (min.)	Reserved										Bit No. 7	1	1	1	1	1	1	1	1	1	1	Bit No. 6	1	1	1	1	1	1	1	1	1	1	0																							
Interval (min.)		Reserved																																																									
Bit No. 7		1	1	1	1	1	1	1	1	1	1																																																
Bit No. 6		1	1	1	1	1	1	1	1	1	1																																																
4		<table><tr><td>Bit No. 5</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><td>1</td><td>1</td></tr><tr><td>Bit No. 4</td><td>1</td><td>1</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>1</td><td>1</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>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>	Bit No. 5	0	0	1	1	1	1	1	1	1	1	Bit No. 4	1	1	0	0	0	0	0	0	0	0	Bit No. 3	1	1	0	0	0	0	1	1	1	1	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
Bit No. 5		0	0	1	1	1	1	1	1	1	1																																																
Bit No. 4		1	1	0	0	0	0	0	0	0	0																																																
Bit No. 3		1	1	0	0	0	0	1	1	1	1																																																
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																																																
3	<table><tr><td>Interval (min.)</td><td colspan="10">Reserved</td></tr><tr><td>Bit No. 7</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. 6</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></table>	Interval (min.)	Reserved										Bit No. 7	1	1	1	1	1	1	1	1	1	1	Bit No. 6	1	1	1	1	1	1	1	1	1	1	1																								
Interval (min.)	Reserved																																																										
Bit No. 7	1	1	1	1	1	1	1	1	1	1																																																	
Bit No. 6	1	1	1	1	1	1	1	1	1	1																																																	
2	<table><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>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. 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>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>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>	Bit No. 5	1	1	1	1	1	1	1	1	1	1	Bit No. 4	1	1	1	1	1	1	1	1	1	1	Bit No. 3	0	0	0	0	1	1	1	1	1	1	Bit No. 2	0	0	1	1	0	0	1	1	1	1	Bit No. 1	0	1	0	1	0	1	0	1	0	1	0		
Bit No. 5	1	1	1	1	1	1	1	1	1	1																																																	
Bit No. 4	1	1	1	1	1	1	1	1	1	1																																																	
Bit No. 3	0	0	0	0	1	1	1	1	1	1																																																	
Bit No. 2	0	0	1	1	0	0	1	1	1	1																																																	
Bit No. 1	0	1	0	1	0	1	0	1	0	1																																																	
1																																																											

15.3.27 SOFT SWITCH: #25

Bit No.	Designation	Function					Initial Setting																
							Bit	HEX															
8	Reserved	Reserved					0	0															
7							0																
6							0																
5							0																
4	Flash key time	<table><tr><td>Flash time (ms)</td><td>100</td><td>80</td><td>60</td><td>50</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	60	50	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0	0
Flash time (ms)		100	80	60	50																		
Bit No. 4		0	0	1	1																		
Bit No. 3	0	1	0	1																			
3						0																	
2																							
1	Reserved	Reserved					0																

15.3.28 SOFT SWITCH: #26

Bit No.	Designation	Function					Initial Setting																
							Bit	HEX															
8	Dial tone detection time before disconnected	<table><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	0																			
5			0																				
4			0																				
3			0																				
2			0																				
1			0																				

15.3.29 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	

15.3.30 SOFT SWITCH: #28

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	Time to dial after dial tone on the line	<table><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		<table><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	0	
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																																									
6	<table><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		
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																																									
5	<table><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	0		
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																																									
4	CED duration time within calling period	<table><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																																								
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><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. 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>	Time (ms)	800	900	1000	1100	1200	1300	1400	1500	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	
Time (ms)		800	900	1000	1100	1200	1300	1400	1500																																								
Bit No. 4	1	1	1	1	1	1	1	1																																									
Bit No. 3	0	0	0	0	1	1	1	1																																									
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2	<table><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. 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>	Time (ms)	800	900	1000	1100	1200	1300	1400	1500	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		
Time (ms)	800	900	1000	1100	1200	1300	1400	1500																																									
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	<table><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. 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>	Time (ms)	800	900	1000	1100	1200	1300	1400	1500	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		
Time (ms)	800	900	1000	1100	1200	1300	1400	1500																																									
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																																									

- Bit 1-4: The CED duration time level for automatic transmatton

15.3.31 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><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><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	
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																																																											
3		<table><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	
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																																																												
2	<table><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	0		
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	<table><tr><td>Time (sec)</td><td>6.0</td><td>6.2</td></tr><tr><td>Bit No. 5</td><td>1</td><td>1</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>	Time (sec)	6.0	6.2	Bit No. 5	1	1	Bit No. 4	1	1	Bit No. 3	1	1	Bit No. 2	1	1	Bit No. 1	0	1	0																																																		
Time (sec)	6.0	6.2																																																																				
Bit No. 5	1	1																																																																				
Bit No. 4	1	1																																																																				
Bit No. 3	1	1																																																																				
Bit No. 2	1	1																																																																				
Bit No. 1	0	1																																																																				

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ADJUSTMENT/SETTING

15.3.32 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	6
7		Bit No. 8    0    0    1    1 Bit No. 7    0    1    0    1	1	
6	Signal tone insensitivity (dBm) after dial for busy tone	Level (dBm) 0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10 Bit No. 6 0 0 0 0 0 0 0 0 0 0 0 Bit No. 5 0 0 0 0 0 0 0 0 0 0 0 Bit No. 4 0 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 Bit No. 1 0 1 0 1 0 1 0 1 0 1 0	1	8
5		Level (dBm) -11 -12 -13 -14 -15 -16 -17 -18 -19 -20 Bit No. 6 0 0 0 0 0 0 0 0 0 0 Bit No. 5 0 0 0 0 0 0 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 Bit No. 1 1 0 1 0 1 0 1 0 1 0	0	
4		Level (dBm) -21 -22 -23 -24 -25 -26 -27 -28 -29 -30 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 Bit No. 1 1 0 1 0 1 0 1 0 1 0	1	
3		Level (dBm) -31 -32 -33 -34 -35 -36 -37 -38 -39 -40 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 Bit No. 1 1 0 1 0 1 0 1 0 1 0	0	
2		Level (dBm) -41 to -50 Setting disable	0	
1		Level (dBm) -41 to -50 Setting disable	0	

15.3.33 SOFT SWITCH: #31

Bit No.	Designation	Function	Initial Setting																																																								
			Bit	HEX																																																							
8	Reserved	Reserved	0	2																																																							
7	Min re-dial interval	<table><tr><td>Interval</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td colspan="2">Reserved</td></tr><tr><td>Bit No. 7</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>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>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Interval		1	2	3	4	5	Reserved		Bit No. 7	0	0	0	1	1	1	1	Bit No. 6	0	1	1	0	0	1	1	Bit No. 5	1	0	1	0	1	0	1	0																							
Interval		1	2		3	4	5	Reserved																																																			
Bit No. 7		0	0		0	1	1	1	1																																																		
Bit No. 6		0	1		1	0	0	1	1																																																		
Bit No. 5	1	0	1	0	1	0	1																																																				
6	1																																																										
5	0																																																										
4	Max. re-dial attempts	<table><tr><td>Attempts</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><td>10</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>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></table>	Attempts	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	1	A
Attempts		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		1																																																									
1	0																																																										
	<table><tr><td>Attempts</td><td colspan="5">Reserved</td></tr><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></table>	Attempts	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																												
	Attempts	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																																																						

15.3.34 SOFT SWITCH: #32

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

15.3.35 SOFT SWITCH: #33

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	4
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	0
		1: Yes		
3	Reserved	Reserved	0	
2			0	
1			0	

- Bit 4-5: V.17, V.29 and V.27 only

15.3.36 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	

15.3.37 SOFT SWITCH: #35

Bit No.	Designation	Function	Initial Setting																							
			Bit	HEX																						
8	Dial tone table switch time	<table><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	Dial tone frequency upper range index	See Bit No. 1 to 3	1																							
5			0																							
4			0																							
3	Dial tone frequency low range index	<table><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		<table><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>	Bit No. 3	0	0	0	Bit No. 2	0	0	1	Bit No. 1	0	1	0	0											
Bit No. 3		0	0	0																						
Bit No. 2	0	0	1																							
Bit No. 1	0	1	0																							
1	<table><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																					

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ADJUSTMENT/SETTING

15.3.38 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		Reserved	0																																														
6			0																																														
5			0																																														
4	Re-dial attempts fail limitation counter (Using for detect line problem error)	<table><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			0																																														
		<table><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		
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																																									

**15.3.39 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	0																															
		1: No - retry from V.8 handshake																																
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><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><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>	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><tr><td>Symbol rate</td><td colspan="5" rowspan="2">Reserved</td></tr><tr><td>Max. speed</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	Bit No. 3	1	1	1			Bit No. 2	0	1	1			Bit No. 1	1	0	1			0							
Symbol rate	Reserved																																	
Max. speed																																		
Bit No. 3	1	1	1																															
Bit No. 2	0	1	1																															
Bit No. 1	1	0	1																															

**15.3.40 SOFT SWITCH: #38**

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Reserved	Reserved	0	6															
7	Set/Reset V.34 transmit level deviation	0: Reset	1																
		1: Set																	
6			1																
5		V.34 flag number between ECM frame	<table><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
Flags number	1	2	3		15														
Bit No. 6	0	0	1	1															
Bit No. 5	0	1	0	1															
4	Phase 2 guard tone power level (V.34)	0: normal power level	0																
		1: -7 db of normal power level																	
3	Reserved	Reserved	0	1															
2			0																
1	V.8 /V.34 capability	0: No	1																
		1: Yes																	

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ADJUSTMENT/SETTING

15.3.41 SOFT SWITCH: #39

Bit No.	Designation	Function	Initial Setting														
			Bit	HEX													
8	Disable V.34 TX for V.34 modem	1: Yes 0: No	0	0													
7	Disable V.34 RX for V.34 modem	1: Yes 0: No	0														
6	Flags number in FSK frame for V.34 modem		0														
5		<table><tr><td>Flags number</td><td>1</td><td>2</td><td>3</td><td>4</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	4	Bit No. 6	0	0	1	1	Bit No. 5	0	1	0
Flags number	1	2	3	4													
Bit No. 6	0	0	1	1													
Bit No. 5	0	1	0	1													
4	Manual TX mode for V.34 modem	0: V.8 - start handshake from V.8 1: V.17	0	1													
3	Switch from V.17 to V.34 if DIS Bit 6 set after received DIS	0: Yes - start V.8 handshaking. but only first time 1: No - Continue start with.17	0														
2	Delay time in primary channel for V.34 transmit after CFR or MCF signal		0														
1		<table><tr><td>Delay time (ms)</td><td>100</td><td>200</td><td>300</td><td>500</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>	Delay time (ms)		100	200	300	500	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0
Delay time (ms)	100	200	300	500													
Bit No. 2	0	0	1	1													
Bit No. 1	0	1	0	1													

15.3.42 SOFT SWITCH: #40

Bit No.	Designation	Function	Initial Setting																																												
			Bit	HEX																																											
8	V.17 RX start speed select receiving start speed for V.17	<table><tr><td rowspan="2">Speed (bps)</td><td>V.17</td><td>V.17</td><td>V.17</td><td>V.17</td></tr><tr><td>14400</td><td>12000</td><td>9600</td><td>7200</td></tr><tr><td>Bit No. 8</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></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>	Speed (bps)	V.17	V.17	V.17	V.17	14400	12000	9600	7200	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	0	0														
Speed (bps)		V.17		V.17	V.17	V.17																																									
		14400	12000	9600	7200																																										
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Bit No. 7		0	0	0	0																																										
Bit No. 6		0	0	1	1																																										
Bit No. 5		0	1	0	1																																										
7		<table><tr><td rowspan="2">Speed (bps)</td><td>V.29</td><td>V.29</td><td>V.27</td><td>V.27 ter</td></tr><tr><td>9600</td><td>7200</td><td>4800</td><td>2400</td></tr><tr><td>Bit No. 8</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit No. 7</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></tr><tr><td>Bit No. 5</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Speed (bps)	V.29	V.29	V.27	V.27 ter	9600	7200	4800	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	0															
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Speed	Reserved																																														
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Bit No. 1	0	1	0	1																																											

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

15.3.43 SOFT SWITCH: #41

Bit No.	Designation	Function	Initial Setting																																												
			Bit	HEX																																											
8	V.17 TX start speed select receiving start speed for V.17	<table><tr><td rowspan="2">Speed (bps)</td><td>V.17</td><td>V.17</td><td>V.17</td><td>V.17</td></tr><tr><td>14400</td><td>12000</td><td>9600</td><td>7200</td></tr><tr><td>Bit No. 8</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></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>	Speed (bps)	V.17	V.17	V.17	V.17	14400	12000	9600	7200	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	0	0														
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Bit No. 5	0	1	0	1	0	1	0	1																																							
4	Reserved	Reserved	0																																												
3	V.34 TX start speed prohibit V.34 mode when upper speed less	<table><tr><td rowspan="2">Speed (bps)</td><td>V.34</td><td>V.34</td><td>V.34</td><td>V.34</td></tr><tr><td>33600</td><td>31200</td><td>28800</td><td>26400</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></table>	Speed (bps)	V.34	V.34	V.34	V.34	33600	31200	28800	26400	Bit No. 3	0	0	0	0	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0	0																			
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		Bit No. 3	1	1	1	1																																									
Bit No. 2	0	0	1	1																																											
1	Bit No. 1	0	1	0	1																																										

15.3.44 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	

15.3.45 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	

15.3.46 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	

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

## 15.3.47 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	3																																																							
4	No. of call transfer	<table><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
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	<table><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>	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																								
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																																																	
2	<table><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	1																						
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Bit No. 4	1	1	1	1	1	1																																																					
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1		<table><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>	Bit No. 1	0	1	0	1	0	1	1																																																	
Bit No. 1	0	1	0	1	0	1																																																					

## 15.3.48 SOFT SWITCH: #46

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Daylight savings timer	0: No 1: Yes	1	8
7	Reserved	Reserved	0	
6			0	
5			0	A
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	
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 1: Yes	0	

- 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)
- Bit 2: Some country such as U.S.A PTT regulation, must be send header at top of each page.

15.3.49 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	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.

15.3.50 SOFT SWITCH: #48

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Activity report	0: No	1	A															
		1: Yes																	
7	TX result report		0																
		<table><tr><th>Description</th><th>ON</th><th>ON (Error)</th><th>OFF</th><th>Reserved</th></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>	Description		ON	ON (Error)	OFF	Reserved	Bit No. 7	0	0	1	1	Bit No. 6	0	1	0	1	
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		0																
		<table><tr><th>Description</th><th>ON</th><th>ON (Error)</th><th>OFF</th><th>Reserved</th></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		ON	ON (Error)	OFF	Reserved	Bit No. 5	0	0	1	1	Bit No. 4	0	1	0	1	
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	8															
2			0																
1			0																

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

**15.3.51 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	0: Re-dial again	0																																														
	1: Base on re-dial time interval																																																
4	No. of rings	<table><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	0	1
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																																								
3		<table><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>	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																			
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		<table><tr><td>No. of rings</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</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>	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																																								
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	<table><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>	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											
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																																									

**15.3.52 SOFT SWITCH: #50**

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Transmit or cancel after time out in "Memory TX"	0: Cancel and print out report	0	0
		1: Transmission		
7	Reserved	Reserved	0	0
6			0	
5			0	
4			0	
3			0	
2			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.

15.3.53 SOFT SWITCH: #51

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7			0																
6			0																
5			0																
4	T30 monitor report selection	<table><tr><td>Descrip- tion</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>	Descrip- tion	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	0
Descrip- tion		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	<table><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>	Bit No. 4	0	0	1	1	Bit No. 3	0	1	0	1	0							
Bit No. 4	0	0	1	1															
Bit No. 3	0	1	0	1															
2		0: From error page	0																
		1: From start page																	
1	Reserved	Reserved	0																

15.3.54 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	

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

**15.3.55 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	

**15.3.56 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><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><tr><td>Date/Time</td><td>2008. 11. 25</td><td>25. 11. 2008</td><td>11. 25. 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	25. 11. 2008	11. 25. 2008	Bit No. 7	0	0	1	Bit No. 6	0	1	0	1		
		Date/Time	2008. 11. 25		25. 11. 2008	11. 25. 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><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
Description (KB)		256	512	1024	1536													
Bit No. 5	0	0	1	1														
Bit No. 4	0	1	0	1														
4			1															
3	Memory near full capacity for N-scan scanning	<table><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			0															
1	Reserved	Reserved	0															

15.3.57 SOFT SWITCH: #55

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	

15.3.58 SOFT SWITCH: #56

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	

15.3.59 SOFT SWITCH: #57

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	

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

15.3.60 SOFT SWITCH: #58

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Time out from PSK to FSK delay time	0: 6 sec.	0	0
		1: 30 sec.		
7	Reserved	Reserved	0	0
6			0	
5			0	
4			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.

**15.3.61 SOFT SWITCH: #59 (Part 1)**

Bit No.	Designation	Function	Initial Setting																																								
			Bit	HEX																																							
8	Reserved	Reserved	0																																								
7			0																																								
6	Time Between GMT (Greenwich Mean Time)	<table><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><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></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	2
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																																						
5		<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>+02:00</th><th>+02:30</th><th>+03:00</th><th>+03:30</th></tr><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>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></tr><tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Time between mean time	Greenwich mean time + T				+02:00	+02:30	+03:00	+03:30	Bit No. 6	0	0	0	0	Bit No. 5	0	0	0	0	Bit No. 4	0	0	0	0	Bit No. 3	1	1	1	1	Bit No. 2	0	0	1	1	Bit No. 1	0	1	0	1	0	
Time between mean time		Greenwich mean time + T																																									
		+02:00	+02:30	+03:00	+03:30																																						
Bit No. 6		0	0	0	0																																						
Bit No. 5		0	0	0	0																																						
Bit No. 4		0	0	0	0																																						
Bit No. 3		1	1	1	1																																						
Bit No. 2		0	0	1	1																																						
Bit No. 1		0	1	0	1																																						
4		<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>+04:00</th><th>+04:30</th><th>+05:00</th><th>+05:30</th></tr><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>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></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>	Time between mean time	Greenwich mean time + T				+04:00	+04:30	+05:00	+05:30	Bit No. 6	0	0	0	0	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	Bit No. 1	0	1	0	1	1	A
Time between mean time		Greenwich mean time + T																																									
		+04:00	+04:30	+05:00	+05:30																																						
Bit No. 6		0	0	0	0																																						
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																																							
Bit No. 1	0	1	0	1																																							
3	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>+06:00</th><th>+06:30</th><th>+07:00</th><th>+07:30</th></tr><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>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></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>	Time between mean time	Greenwich mean time + T				+06:00	+06:30	+07:00	+07:30	Bit No. 6	0	0	0	0	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	Bit No. 1	0	1	0	1	0		
Time between mean time	Greenwich mean time + T																																										
	+06:00	+06:30	+07:00	+07:30																																							
Bit No. 6	0	0	0	0																																							
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																																							
Bit No. 1	0	1	0	1																																							
2	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>+08:00</th><th>+08:30</th><th>+09:00</th><th>+09:30</th></tr><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>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></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>	Time between mean time	Greenwich mean time + T				+08:00	+08:30	+09:00	+09:30	Bit No. 6	0	0	0	0	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	1	0	
Time between mean time	Greenwich mean time + T																																										
	+08:00	+08:30	+09:00	+09:30																																							
Bit No. 6	0	0	0	0																																							
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																																							
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Time between mean time	Greenwich mean time + T																																										
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Bit No. 6	0	0	0	0																																							
Bit No. 5	1	1	1	1																																							
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																																							

magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

15.3.62 SOFT SWITCH: #59 (Part 2)

Bit No.	Designation	Function	Initial Setting																																								
			Bit	HEX																																							
6	Time Between GMT (Greenwich Mean Time)	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>+10:00</th><th>+10:30</th><th>+11:00</th><th>+11:30</th></tr><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>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></tr><tr><td>Bit No. 3</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></tr><tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Time between mean time	Greenwich mean time + T				+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	Bit No. 1	0	1	0	1	1	
Time between mean time		Greenwich mean time + T																																									
		+10:00	+10:30	+11:00	+11:30																																						
Bit No. 6		0	0	0	0																																						
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Time between mean time		Greenwich mean time + T																																									
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Time between mean time		Greenwich mean time + T																																									
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Bit No. 6		0	1	1	1																																						
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Bit No. 1		0	1	0	1																																						
3		<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>-02:00</th><th>-02:30</th><th>-03:00</th><th>-03:30</th></tr><tr><td>Bit No. 6</td><td>1</td><td>1</td><td>1</td><td>1</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>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></tr><tr><td>Bit No. 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></table>	Time between mean time	Greenwich mean time + T				-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	Bit No. 1	0	1	0	1	0	
Time between mean time	Greenwich mean time + T																																										
	-02:00	-02:30	-03:00	-03:30																																							
Bit No. 6	1	1	1	1																																							
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2	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>-04:00</th><th>-04:30</th><th>-05:00</th><th>-05:30</th></tr><tr><td>Bit No. 6</td><td>1</td><td>1</td><td>1</td><td>1</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>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></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>	Time between mean time	Greenwich mean time + T				-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	Bit No. 1	0	1	0	1	1	A	
Time between mean time	Greenwich mean time + T																																										
	-04:00	-04:30	-05:00	-05:30																																							
Bit No. 6	1	1	1	1																																							
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Bit No. 3	0	0	0	0																																							
Bit No. 2	0	0	1	1																																							
Bit No. 1	0	1	0	1																																							
1	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>-06:00</th><th>-06:30</th><th>-07:00</th><th>-07:30</th></tr><tr><td>Bit No. 6</td><td>1</td><td>1</td><td>1</td><td>1</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>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></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>	Time between mean time	Greenwich mean time + T				-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	0		
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Bit No. 6	1	1	1	1																																							
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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																																							

**15.3.63 SOFT SWITCH: #59 (Part 3)**

Bit No.	Designation	Function	Initial Setting																																																																							
			Bit	HEX																																																																						
6	Time Between GMT (Greenwich Mean Time)	<table><tr><th rowspan="2">Time between mean time</th><th colspan="4">Greenwich mean time + T</th></tr><tr><th>-08:00</th><th>-08:30</th><th>-09:00</th><th>-09:30</th></tr><tr><td>Bit No. 6</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><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>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></table>	Time between mean time	Greenwich mean time + T				-08:00	-08:30	-09:00	-09:30	Bit No. 6	1	1	1	1	Bit No. 5	1	1	1	1	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																																
Time between mean time		Greenwich mean time + T																																																																								
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Bit No. 6		1	1	1	1																																																																					
Bit No. 5		1	1	1	1																																																																					
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Bit No. 6	1	1	1	1																																																																						
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Time between mean time	Greenwich mean time + T																																																																									
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Bit No. 6	1	1	1	1	1	1	1	1																																																																		
Bit No. 5	1	1	1	1	1	1	1	1																																																																		
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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	<table><tr><td>Bit No. 6</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. 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></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>	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	0																		
Bit No. 6	1	1	1	1	1	1	1	1																																																																		
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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																																																																		

- Bit1-6: 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.

15.3.64 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	0
4			0	
3			0	
2	Off hook alarm after communication	0: Alarm	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		

15.3.65 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><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																																								
3		<table><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>	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																			
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		<table><tr><td>No. of rings</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</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>	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	1	
No. of rings		9	10	11	12	13	14	15	16																																								
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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	<table><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>	Bit No. 2	0	0	1	1	0	0	1	1	Bit No. 1	0	1	0	1	0	1	0	1	1																													
Bit No. 2	0	0	1	1	0	0	1	1																																									
Bit No. 1	0	1	0	1	0	1	0	1																																									

15.3.66 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	

15.3.67 SOFT SWITCH: #63

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	"#" key definition in PBX mode	1: "#" is external key, machine (PBX) default is internal 0: "#" is internal key, machine (PSTN) default is external	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		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 1: This bit set to "1", the first page image will not append at the bottom of error report or OK report.
- Bit2: When this bit sets to "1", "Thin line" image with TEXT mode becomes more clear.

15.3.68 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	0
3			0	
2			0	
1			0	

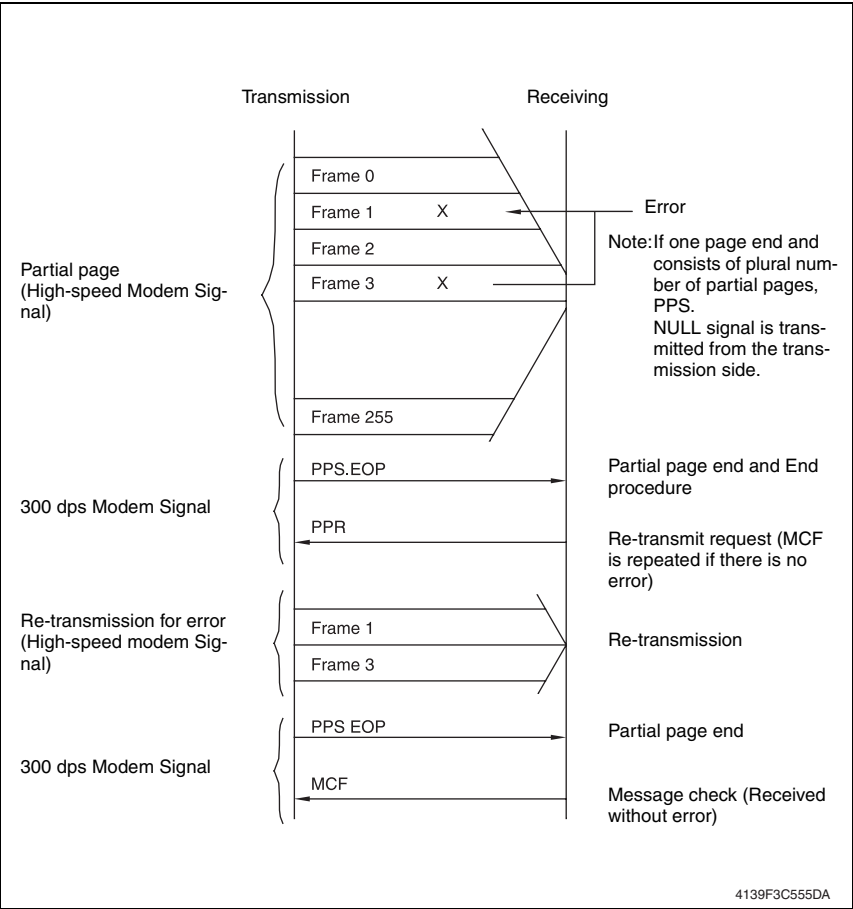
- Bit 6: If this bit set to 1, Machine do not print put RX error report if no detect any Fax signal from the other party.
- Bit 5: Can not open by user to change PPS if this bit set to “0”.

# 16. Fax Protocols

## 16.1 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) 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:



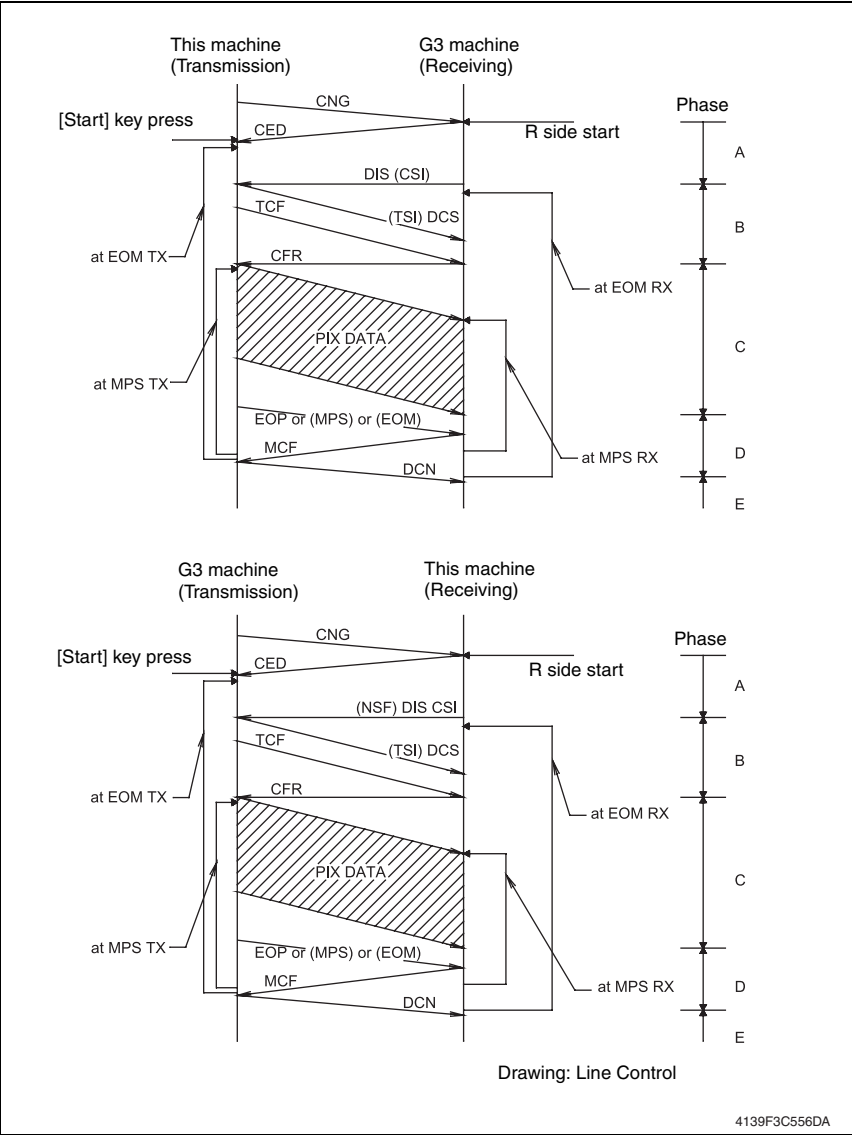
magicolor 1680MF  
magicolor 1690MF

ADJUSTMENT/SETTING

16.2 Line control

16.2.1 Procedure of G3 mode communication

- Basic communications diagram of G3 mode.



### 16.3 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.

16.4 How to analyze the T30 protocol monitor

- DCS or DIS
- HEX Data as printed on page.  
[See P.150](#)
- Example: V.17 Communication

PROTOCOL MONITOR REPORT

NAME: ABC  
TEL:886 3 4733507  
DATE: APR.23'04 12:20

SESSION	FUNCTION	NO	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
0001	TX	01	ABC 22345678901234567890	DEC.02	15:00	008	00h00min00s	ECM-12	OK

TX	RX

DATA

FF 13 83 00 46 88 00...

FIF (Facsimile Information Field)

FCF (Facsimile Control Field)  
= 83: DCS, 80: DIS

Means Last Control Field.

Means address

- FIF (Facsimile Information Field)

HEX	1												2											
	0			0			4			6			8			8			0			0		
Data Bit	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Bit No.	8	7	6	5	4	3	2	1	16	15	14	13	12	11	10	9	24	23	22	21	20	19	18	17
Note																								

- Hex-Binary Conversion List

Hex	Binary				Hex	Binary				Hex	Binary				Hex	Binary			
0	0	0	0	0	4	0	1	0	0	8	1	0	0	0	C	1	1	0	0
1	0	0	0	1	5	0	1	0	1	9	1	0	0	1	D	1	1	0	1
2	0	0	1	0	6	0	1	1	0	A	1	0	1	0	E	1	1	1	0
3	0	0	1	1	7	0	1	1	1	B	1	0	1	1	F	1	1	1	1

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"																																																																																																																																																																																		
10	"0"= Invalid "1"= Receiver fax operation																																																																																																																																																																																				
11	Data signalling rate	<table><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><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></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><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><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></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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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																																																																																																																																																																																	
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																																																																																																																																																																																		

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		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"								

Bit No.	Designation	DIS/DTC	DCS
31	"0"= Invalid "1"= T.6 coding capability		"0"= Invalid "1"= T.6 coding enabled
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)		

Bit No.	Designation	DIS/DTC	DCS
54	"0"= Invalid "1"= Document Transfer Mode (DTM)		
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 Huffmann 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 × 279.4 mm) capacity		"0"= Invalid "1"= North American Letter (215.9 mm × 279.4 mm)

Bit No.	Designation	DIS/DTC	DCS
77	"0"= Invalid "1"= North American Legal (215.9 mm × 355.6 mm) capacity		"0"= Invalid "1"= North American Legal (215.9 mm × 355.6 mm)
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		
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		

Bit No.	Designation	DIS/DTC	DCS
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		
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

## 17. Error display

### 17.1 Error messages

Message	Description	Action
ADDRESS IS TOO LONG	The e-mail address retrieved from the LDAP server exceeds 64 characters.	This machine can handle addresses containing no more than 64 bytes. Use a shorter address.
CANNOT CONNECT xxx Server	A connection with the specified server could not be established.	Check the settings specified in the NETWORK SETTING and E-MAIL SETTING menus, and then try sending the data again.
CANNOT GET IP xxx Server	The IP address of the specified server could not be obtained from the DNS server.	Check the settings specified in the NETWORK SETTING and E-MAIL SETTING menus, and then try sending the data again.
CHECK TRAY1 PAPER LOAD PAPER ('xx') (PRESS START KEY)	Tray1 has run out of paper.	Load media into the tray, and then press the Start key.
	Media has misfed in Tray 1.	Remove the misfed media.
COMMUNICATION ERROR USB Memory	While data was being sent in Scan mode, the connection to the USB memory device was interrupted.	Check the connection to the USB memory device, and then try sending the data again.
COMMUNICATION ERROR xxx Server	While data was being sent in Scan mode, the connection to the server was interrupted.	Check the settings specified in the NETWORK SETTING and E-MAIL SETTING menus, and then try sending the data again.
DISCONNECT USB Memory	The connection to the USB memory device was interrupted.	Check the connection to the USB memory device, and then try sending the data again.
DISCONNECT xxx Server	The connection to the server was interrupted.	Check the settings specified in the NETWORK SETTING and E-MAIL SETTING menus, and then try sending the data again.
DESTINATION SET BY MANUAL UP TO 16	There were more than 16 addresses found with an LDAP search.	Increase the number of entered characters, and then perform the search again.
I/C END	The time to replace the imaging cartridge has been reached.	Replace the imaging cartridge.
I/C LIFE END REPLACE I/C	The time to replace the imaging cartridge has been reached.	Replace the imaging cartridge.
I/C LOW	The imaging cartridge is nearly empty.	Prepare the imaging cartridge.
JOB CANCELED	While a document was being scanned from the original glass in Scan mode, more than one minute had passed after the first page of the document was scanned or the data could not be sent. Therefore, the scan job was automatically canceled.	Turn the machine off, and then, after waiting a few seconds, turn it on again. When sending multiple pages, for example, from a book, scan the first page, and then scan the next page within one minute.

Message	Description	Action
MEMORY FILE FULL	The maximum number of image data files has been reached.	Turn the machine off, and then, after a few seconds, turn it on again. Decrease the amount of data to be printed (for example, by decreasing the resolution), and then try printing again.
MEMORY FULL	The machine has received more data than can be processed with its internal memory.	Turn the machine off, and then, after a few seconds, turn it on again. Decrease the amount of data to be printed (for example, by decreasing the resolution), and then try printing again.
NO NETWORK SETTING	The network settings had not been completely specified when the machine was switched to Scan mode.	Before scanning in Scan mode, specify the network settings in the NETWORK SETTING and E-MAIL SETTING menus.
NO SUITABLE PAPER CHECK DUPLEX SETTING	Duplex (double- sided) printing is specified, but paper with a type or size incompatible with duplex (double- sided) printing is selected.	Select Letter- or A4-size plain paper, or select simplex (single- sided) printing, and then try performing the print job again.
NO SUITABLE PAPER LOAD PAPER (xxx)	Paper suitable for printing is not loaded in a paper tray.	Load paper suitable for printing into a paper tray.
NOT E-MAIL ADDRESS	When the destination for the scan data was specified, a fax number registered in the favorite list or as a speed dial destination or group dial destination has been selected.	<ul style="list-style-type: none"> <li>Directly type in the destination for the scan data, or specify an e-mail address registered in the favorite list or as a speed dial destination or group dial destination.</li> <li>When sending scan data to an FTP address or SMB address, only one address can be specified. Delete all specified destinations, or send the scan data, then scan again.</li> </ul>
NOT INSTALLED TONER CHECK x TONER	The indicated toner cartridge is not installed.	Install the indicated toner cartridge.
NOT REGISTERED	<ul style="list-style-type: none"> <li>No speed dial destination or group dial destination is registered.</li> <li>Otherwise, no destination has been registered with the specified speed dial or group dial number.</li> </ul>	Directly type in the destination address for the scan data, or register a speed dial destination or group dial destination and try specifying the destination address again.
OUTPUT TRAY FULL REMOVE PAPER	The output tray is full of paper.	Remove all paper from the output tray.
OVER SEARCH TIME	Communication with the LDAP server has timed out.	Establish a connection with the LDAP server again.
PAPER EMPTY LOAD PAPER (°xx)	Tray 2 has run out of paper.	Load media into the tray.



Message	Description	Action
PAPER SIZE ERROR RESET PAPER (xxx)	The size of paper being printed on is different from the size of paper specified in the printer driver.	<ul style="list-style-type: none"> <li>Press the Start key to cancel the caution.</li> <li>To print on paper of the size specified in the printer driver, load paper of the correct size into the specified tray, and then try performing the print job again.</li> </ul>
PC CONNECTION FAILED	While data was being sent in Scan mode, the connection to the computer was interrupted.	Check the connection with the computer and the scanner driver status, and then try sending the data again.
Process Caution - IDC	IDC sensor error.	<ul style="list-style-type: none"> <li>Open and close the front cover.</li> <li>Check the toner cartridge (C) or toner cartridge (K).</li> </ul>
PROCESS ERROR-xxx CLEAR BY COVER	A process error occurred in the machine.	<ul style="list-style-type: none"> <li>Replace the imaging cartridge.</li> <li>Reinstall the high voltage unit.</li> </ul>
REMOVE ORIGINAL IN ADFR	The document is loaded in the ADF while a function is set that requires scanning from the original glass.	Place the document on the original glass.
RESULTS ARE OVER xxx	The LDAP search results exceed the maximum specified with MAX. SEARCH RESULT in the LDAP SETTING menu.	Change the maximum setting, or change the search conditions (for example, increase the length of the keyword), and then try performing the LDAP search again.
RETURN xx ORIGINAL to ADF and PRESS START KEY	After a media misfeed has been cleared from the ADF, the number of document pages to be reloaded into the ADF is indicated.	Reload into the ADF the number of document pages indicated by xx, and then press the Start key.
SERVER MEMORY FULL SMTP Server	The memory of the SMTP server has become full.	Free up some space on the disk, for example, by contacting your server administrator.
THE PARTY IS FULL	The maximum number of 236 destinations for the scan data has been reached.	Send the data, and then try scanning again. Otherwise, delete unnecessary destinations before adding the desired ones.
TONER LIFE END CHANGE x TONER	The indicated toner cartridge has become empty.	Replace the indicated toner cartridge.
TONER OUT CHANGE x TONER	The indicated toner cartridge has become empty. (This message appears if TONER OUT STOP on the MACHINE SETTING menu is set to ON.)	Replace the indicated toner cartridge.
Toner Low x	The indicated toner cartridge is nearly empty.	Prepare the indicated toner cartridge.
TRAY2 OPEN CLOSE TRAY2	Tray 2 cassette is open.	Close the tray.
T/C Memory Error	A memory error occurred in the toner cartridge.	Re-install the specified toner cartridge.
USB Dev. Not support	A USB device incompatible with this machine is connected.	Disconnect the USB device from this machine.



Message	Description	Action
USB Hub Not support	A USB hub is connected to this machine.	This machine is not compatible with a USB hub. When connecting USB cables to this machine, do not use a USB hub.
USB MEMORY FULL	There is no space available on the USB memory device connected to this machine.	Delete data from the USB memory device to create free space, or use a different USB memory device.
Video I/F Error	A video interface error occurred in the machine.	Turn off the machine. After a few seconds, turn on the machine.
WRONG PASSWORD xxx Server	The password is incorrect, so the indicated server could not be accessed.	Check the password, and then specify the correct one.
Wrong Toner x	An unapproved toner cartridge is installed.	Install a correct KONICA MINOLTA toner cartridge.
xxx COVER OPEN CLOSE xxx COVER	The indicated cover is open.	Close the indicated cover.
	The imaging cartridge is not installed.	Install the imaging cartridge.
	A imaging cartridge incompatible with the machine is installed.	Replace the imaging cartridge with a correct one.
xxx IS DISABLED	The TCP/IP, FTP, SMTP or SMB settings are disabled.	Enable the TCP/IP, FTP, SMTP or SMB settings.
xxxxx IS NOT SUPPORTED	Repeat copying cannot be performed with the specified paper size.	<ul style="list-style-type: none"> <li>The maximum possible size for repeat copying is A4.</li> <li>Specify a paper size of A4 or smaller.</li> </ul>
xxx SERVER ERROR	The file cannot be saved on the indicated server.	Check the status of the indicated server.
COMMUNICATION ERROR (####)	<ul style="list-style-type: none"> <li>Communication is not possible because of some problem in the machine.</li> <li>Communication is not possible because of a problem with the recipient/caller's fax machine.</li> </ul>	Check the transmission results.
Check Fax Mode	A fax error occurred while an operation was being performed in Copy mode or Scan mode.	Press the Fax key to check the error condition, and take appropriate measures.
FAX DATA LOST	Data stored in the memory has been erased.	Check the printed lost data report. If transmission data was erased, scan the transmission data again. If received data was erased, have the fax sent again.
HANG UP THE PHONE	The receiver of the connected telephone is lifted.	Replace the receiver of the connected telephone on the hook.
LINE PROBLEM CHECK LINE	<ul style="list-style-type: none"> <li>The telephone dialing system or telephone wiring system is not set correctly.</li> <li>The telephone cable is not attached correctly.</li> </ul>	<ul style="list-style-type: none"> <li>Check the telephone dialing system or telephone wiring system and use the appropriate configuration menu to make the correct settings.</li> <li>Correctly connect the telephone cable.</li> </ul>

Message	Description	Action
MEMORY FILE FULL	The number of items registered in the memory has exceeded the maximum allowed.	If MEMORY RX MODE is set to ON, cancel memory reception mode, and print received documents stored in the memory.
MEMORY FULL	<ul style="list-style-type: none"><li>While sending a fax, the size of the data for the scanned image has exceeded the capacity of the memory.</li><li>While receiving a fax, the size of the data for the scanned image has exceeded the capacity of the memory.</li></ul>	<ul style="list-style-type: none"><li>If MEMORY RX MODE is set to ON, cancel memory reception mode, and print received documents stored in the memory.</li><li>Send the fax manually.</li></ul>
REDIAL ALL FAILED	All redial attempts failed because either the recipient's line is busy or there was no answer.	Check the condition of the recipient's line, and then try sending the fax again.

magicolor 1680MF  
magicolor 1690MF

18. Jam display

18.1 Misfeed 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.

-----CAUTION-----  
FUSER JAM  
OPEN TOP COVER

A0HFF4E502DA

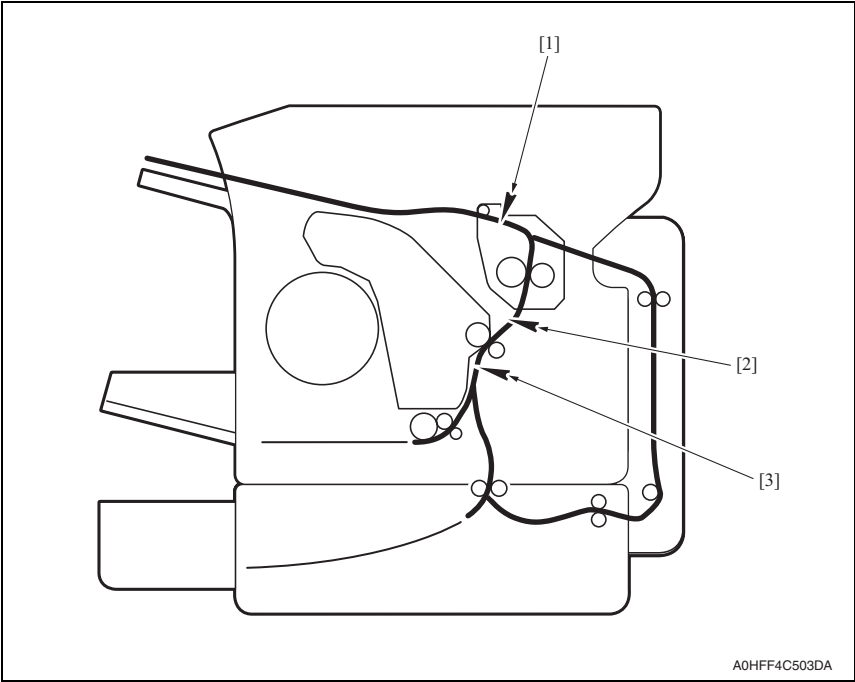
Display	Misfeed Location	Misfeed processing location	Action
TRAY2 JAM OPEN TOP COVER	Tray2 media feed section	Tray2	<a href="#">Lower Feeder Unit Service Manual P.15</a>
CHECK TRAY1 PAPER LOAD PAPER (XXX) (PRESS START KEY)	Tray1 media feed section	Top cover	<a href="#">P.244</a>
DUPLEX JAM OPEN TOP/DUPLEX	Switch back section	Duplex door	<a href="#">Duplex Option Service Manual P.15</a>
TRANSFER JAM OPEN TOP COVER	Transfer section	Top cover	<a href="#">P.245</a>
DUPLEX JAM OPEN DUPLEX COVER	Duplex option transport section	Duplex door	<a href="#">Duplex Option Service Manual P.16</a>
FUSER JAM OPEN TOP COVER	Fusing section	Top cover	<a href="#">P.246</a>
OUTPUT JAM OPEN TOP COVER	Exit section	Top cover	<a href="#">P.247</a>
ORIGINAL DOC. JAM OPEN DOC. FEED COVER (PRESS START KEY)	Document feeding section	ADF top cover	<a href="#">P.248</a>
	Document transport section		<a href="#">P.249</a>
	Document exit section		<a href="#">P.250</a>

18.1.1 Misfeed display resetting procedure

- Open the relevant cover, clear the sheet of misfeed paper, and close the cover.

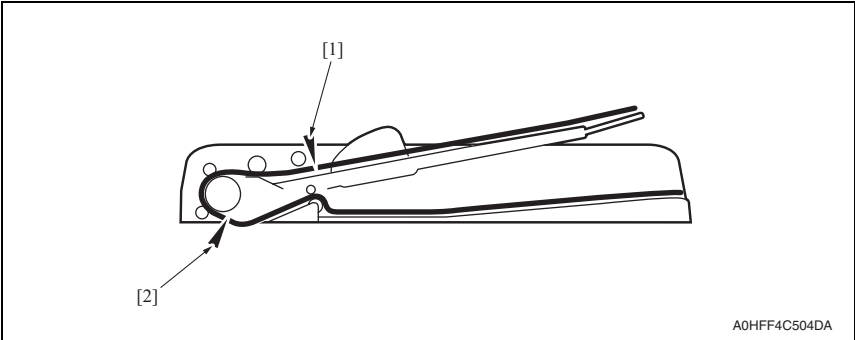
## 18.2 Sensor layout

- System equipped with a lower feeder unit and duplex option.



- [1] Exit sensor (PS4)
- [2] 2nd image transfer retraction position sensor (PS3)
- [3] Registration sensor (PS2)

- Auto document feeder unit



- [1] Media feed sensor (on REYB/1)
- [2] Registration sensor (on REYB/1)

# 18.3 Solution

## 18.3.1 Initial check items

- When a media misfeed occurs, first make checks of the following initial check items.

Check item	Action
Does media meet product specifications?	<ul style="list-style-type: none"> <li>Change media.</li> </ul>
Is media curled, wavy, or damp.	<ul style="list-style-type: none"> <li>Change media.</li> <li>Instruct user in correct media storage.</li> </ul>
Is a foreign matter present along the media path, or is the media path deformed or worn?	<ul style="list-style-type: none"> <li>Clean or change the media path.</li> </ul>
Are rolls/rollers dirty, deformed, or worn?	<ul style="list-style-type: none"> <li>Clean or change the defective roll/roller.</li> </ul>
Are the edge guide and trailing edge stop at correct position to accommodate the media?	<ul style="list-style-type: none"> <li>Set as necessary.</li> </ul>
Are actuators found operational as checked for correct operation?	<ul style="list-style-type: none"> <li>Correct or change the defective actuator.</li> </ul>

## 18.3.2 Misfeed at tray1 media feed section

### A. Detection timing

Type	Description
Detection of misfeed at media feed section	The leading edge of the media does not block the registration sensor (PS2) even after the lapse of a predetermined period of time after the tray1 media feed solenoid (SD1) has been energized.

### B. Action

Relevant electrical parts	
Registration sensor (PS2) Tray1 media feed solenoid (SD1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	PS2 sensor check.	PRCB PJ12-6 (ON)	C-3
4	SD1 operation check.	PRCB PJ10-2 (REM)	C-10
5	Change PRCB.	—	—

### 18.3.3 Misfeed at 2nd transfer section

#### A. Detection timing

Type	Description
Detection of misfeed at 2nd transfer section	The media does not unblock the registration sensor (PS2) even after the lapse of a predetermined period of time after the registration roller solenoid (SD2) has been deenergized.
	The 2nd image transfer retraction position sensor (PS3) is not blocked by the media that has moved past the position, at which the sensor is blocked.
Detection of media left in 2nd transfer section	The registration sensor (PS2) is blocked when the power switch is turned ON, a cover is opened and closed, or a misfeed or malfunction is reset.
	The 2nd image transfer retraction position sensor (PS3) is blocked when the power switch is turned ON, a cover is opened and closed, or a misfeed or malfunction is reset.

#### B. Action

Relevant electrical parts	
Registration sensor (PS2) 2nd image transfer retraction position sensor (PS3) Registration roller solenoid (SD2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	PS2 sensor check.	PRCB PJ12-6 (ON)	C-3
4	PS3 sensor check.	PRCB PJ12-3 (ON)	C-2
5	SD2 operation check.	PRCB PJ10-4 (REM)	C-9
6	Change PRCB.	—	—

18.3.4 Misfeed at fusing section

A. Detection timing

Type	Description
Detection of misfeed at fusing section	The media does not block the exit sensor (PS4) even after the lapse of a predetermined period of time after the registration roller solenoid (SD2) has been energized.
	The exit sensor (PS4) is unblocked within a predetermined period of time after it has been blocked by the media.
	The transport motor, polygon motor, and rack motor are energized even after the lapse of a predetermined period of time after media information has been created.
Detection of media left in fusing section	The exit sensor (PS4) is blocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Exit sensor (PS4) Registration roller solenoid (SD2)	Print control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	Make the sensor check of exit sensor (PS4) and, if any abnormal condition is found, replace the fuser unit with a new one.	—	—
4	SD2 operation check	PRCB PJ10-4 (REM)	C-9
5	Change PRCB.	—	—

18.3.5 Misfeed at exit section

A. Detection timing

Type	Description
Detection of misfeed at exit section	<ul style="list-style-type: none"><li>The exit sensor (PS4) is not unblocked even after the lapse of a predetermined period of time after it has been blocked by the media.</li></ul>
Detection of paper left in exit section	<ul style="list-style-type: none"><li>The exit sensor (PS4) is blocked when the power switch is turned ON, a cover is opened and closed, or a misfeed or malfunction is reset.</li></ul>

B. Action

Relevant electrical parts			
Exit sensor (PS4)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	PS4 sensor check	—	B-5 to 6
4	Change Fuser unit.	—	—
5	Change PRCB.	—	—

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18.3.6 Misfeed at the document feeding section

A. Detection timing

Type	Description
Detection of mis-feed at the document feeding section	<ul style="list-style-type: none"><li>The media feed sensor (on REYB) is not unblocked even after the lapse of a predetermined period of time after the document feed motor (M100) has been energized.</li></ul>
Detection of media left at the document feeding section	<ul style="list-style-type: none"><li>The media feed sensor (on REYB) 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	
Document feed motor (M100) Media feed sensor (on REYB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the MFPB connector for proper connection and correct as necessary.	—	—
3	M100 operation check	MFPB P1-1 to 4	J-6
4	Media feed sensor (on REYB) sensor check	MFPB P4-4 (ON)	K to L-5
5	Change MFPB.	—	—

### 18.3.7 Document transport section

#### A. Detection timing

Type	Description
Detection of mis-feed at the document transport section	<ul style="list-style-type: none"> <li>The registration sensor (on REYB) is not blocked even after the lapse of a pre-determined period of time after the media feed sensor (on REYB) has been unblocked.</li> </ul>
Detection of media left at the document transport section	<ul style="list-style-type: none"> <li>The media feed sensor (on REYB) is unblocked and the registration sensor (on REYB) is blocked 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	
Document feed motor (M100) Media feed sensor (on REYB) Registration sensor (on REYB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the MFPB connector for proper connection and correct as necessary.	—	—
3	M100 operation check	MFPB P1-1 to 4	J-6
4	Media feed sensor (on REYB) sensor check	MFPB P4-4 (ON)	K to L-5
5	Registration sensor (on REYB) sensor check	MFPB P4-1 (ON)	K to L-5
6	Change MFPB.	—	—

18.3.8 Misfeed at the document exit section

A. Detection timing

Type	Description
Detection of misfeed at the document exit section	<ul style="list-style-type: none"><li>The registration sensor (on REYB) is not unblocked even after the lapse of a predetermined period of time after the media feed sensor (on REYB) has been unblocked.</li></ul>
Detection of media left at the document exit section	<ul style="list-style-type: none"><li>The registration sensor (on REYB) is blocked 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	
Document feed motor (M100) Media feed sensor (on REYB) Registration sensor (on REYB)	MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	Check the MFPB connector for proper connection and correct as necessary.	—	—
3	M100 operation check	MFPB P1-1 to 4	J-6
4	Media feed sensor (on REYB) sensor check	MFPB P4-4 (ON)	K to L-5
5	Registration sensor (on REYB) sensor check	MFPB P4-1 (ON)	K to L-5
6	Change MFPB.	—	—

19. Malfunction code

19.1 Trouble codes (service call)

- The printer’s CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the control panel.

CAUTION  
MACHINE TROUBLE  
SERVICE CALL (####)

A0HFF4E500DA

19.1.1 Trouble code list

- For the details of the malfunction codes of the options, see the service manual for the corresponding option.

Display message	Item	Detection timing
0001	Transport motor malfunction	<ul style="list-style-type: none"><li>• The motor lock signal remains HIGH for a predetermined consecutive period of time while the transport motor remains energized.</li></ul>
001B	Rack motor malfunction	<ul style="list-style-type: none"><li>• The rack 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 rack motor is being rotated.</li></ul>
004A	Duplex cooling fan motor malfunction	Duplex Option Service Manual P.18
004C	Ozone ventilation fan motor malfunction	<ul style="list-style-type: none"><li>• The ozone ventilation 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 ozone ventilation 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>
0092	Transfer belt rotation failure	<ul style="list-style-type: none"><li>• The belt positioning sensor does not detect the transfer belt position detection hole a second time even after the lapse of a predetermined period of time after it has detected one while the transfer belt is rotated.</li></ul>

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Display message	Item	Detection timing
0094	2nd image transfer pressure / retraction failure	<ul style="list-style-type: none"> <li>The 2nd image transfer retraction position sensor is not activated (retracted position) within a given period of time after the retraction sequence of the 2nd transfer roller has been started.</li> </ul>
		<ul style="list-style-type: none"> <li>The 2nd image transfer retraction position sensor is not deactivated (pressed position) within a given period of time after the pressure sequence of the 2nd transfer roller has been started.</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> </ul>
		<ul style="list-style-type: none"> <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	Fuser 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 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 fuser 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 fuser 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>
0F51	Waste toner full sensor malfunction	<ul style="list-style-type: none"> <li>It is determined that the LED and photo receiver are faulty through a check made when a new imaging cartridge is detected.</li> </ul>
133C	Modem failure	<ul style="list-style-type: none"> <li>The modem is not function properly.</li> </ul>
13C0	Print control board malfunction	<ul style="list-style-type: none"> <li>A communication error occurs in print control board (PRCB).</li> </ul>
13DD	Backup data error	<ul style="list-style-type: none"> <li>The printer determines that EEPROM is yet to be mounted when the main power switch is turned ON.</li> <li>The data stored in MFPB and PRCB are out-of-sync.</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>
3C00	Trouble related to security	<ul style="list-style-type: none"> <li>Contact the responsible people of KONICA MINOLTA when not returning in power switch OFF/ON.</li> </ul>
3C10		
3C40		



Display message	Item	Detection timing
13E2	Engine flash ROM write error	<ul style="list-style-type: none"> <li>Flash ROM writing is found faulty during a check.</li> </ul>
CF01	BB error	<ul style="list-style-type: none"> <li>Contact the responsible people of KONICA MINOLTA before taking some countermeasures.</li> </ul>
0045	Exit tray cooling fan motor malfunction	<ul style="list-style-type: none"> <li>The exit tray 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 fan motor lock signal remains HIGH for a given period of consecutive time while the exit tray cooling fan motor is being rotated.</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>
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>
1038	Engine connect error	<ul style="list-style-type: none"> <li>Printer control board (PRCB) to MFP board (MFPB) 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 (MFPB) for a given period of time or more.</li> <li>An error command signal is transmitted from the MFP board (MFPB) to printer control board (PRCB).</li> <li>An error status signal is transmitted from the printer control board (PRCB) to MFP board (MFPB).</li> </ul>
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>

## 19.2 Resetting a malfunction

- To reset a malfunction, turn the power switch OFF and then ON again.



19.3 Solution

19.3.1 0001: Transport motor malfunction

Relevant electrical parts			
Transport motor (M1)		Print control board (PRCB) DC power supply (DCPU)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M1 operation check	PRCB PJ8-1 to 6	C-2
5	Change M1.	—	—
6	Change PRCB.	—	—
7	Change DCPU.	—	—

 19.3.2 001B: Rack motor malfunction

Relevant electrical parts			
Rack motor (M2) Driving unit		Print control board (PRCB) DC power supply (DCPU)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the rack motor connector for proper connection and correct as necessary.	—	—
2	Check the PRCB connector for proper connection and correct as necessary.	—	—
3	M2 operation check	PRCB PJ5-5 to 8	C-12
4	Change PRCB.	—	—
5	Change DCPU.	—	—

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**19.3.3 004C: Ozone ventilation fan motor malfunction**

Relevant electrical parts			
Ozone ventilation fan motor (FM2)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the FM2 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM2 operation check	PRCB PJ16-1 (REM) PRCB PJ16-3 (LOCK)	C-4
4	Change FM2.	—	—
5	Change PRCB.	—	—

**19.3.4 004E: DC power supply fan motor malfunction**

Relevant electrical parts			
DC power supply fan motor (FM1)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the FM1 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM1 operation check	HV CN2-1 (REM) HV CN2-3 (LOCK)	B-4 to 5
4	Change FM1.	—	—
5	Change PRCB.	—	—

**19.3.5 0092: Transfer belt rotation failure**

Relevant electrical parts			
Belt positioning sensor (PS6) Imaging cartridge		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the PRCB connector for proper connection and correct as necessary.	—	—
2	PS6 sensor check	—	—
3	Change imaging cartridge.	—	—
4	Change PRCB.	—	—

**19.3.6 0094: 2nd image transfer pressure/retraction failure**

Relevant electrical parts			
2nd image transfer retraction position sensor (PS3) 2nd image transfer pressure/retraction solenoid (SD4) Transport motor (M1)		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check the SD4 connector for proper connection and correct as necessary.	—	—
3	Check M1 for proper drive coupling and correct as necessary.	—	—
4	Check SD4 for proper drive coupling and correct as necessary.	—	—
5	Check the PRCB connector for proper connection and correct as necessary.	—	—
6	PS3 sensor check	PRCB PJ12-3 (ON)	C-2
7	SD4 operation check	PRCB PJ10-6 (REM)	C-9
8	M1 operation check	PRCB PJ8-1 to 6	C-2
9	Change M1.	—	—
10	Change SD4.	—	—
11	Change PRCB.	—	—

**19.3.7 0300: Polygon motor malfunction**

Relevant electrical parts			
PH unit		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the cable and connector for proper connection and correct as necessary.	—	—
2	Change PH unit.	—	—
3	Change PRCB.	—	—

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19.3.8 0310: Laser malfunction

Relevant electrical parts			
PH unit		Print control board (PRCB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the cable and connector for proper connection and correct as necessary.	—	—
2	Change PH unit.	—	—
3	Change PRCB.	—	—

19.3.9 0500: Fuser warm-up failure  
0503: Thermistor resistance failure

Relevant electrical parts			
Fuser unit		Printer control board (PRCB) DC power supply (DCPU)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Change fuser unit.	—	—
2	1. Main switch is turned ON. 2. Press the following ten keys in this order. 3. Main switch is turned OFF/ON.	—	—
3	Change PRCB.	—	—
4	Change DCPU.	—	—



**19.3.10 0502: Thermistor open-circuit failure**  
**0510: Abnormally low fuser temperature**  
**0520: Abnormally high fuser 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 fuser unit, DCPU, and PRCB for proper connection and correct as necessary.	—	—
3	Change fuser unit.	—	—
4	Change PRCB.	—	—
5	Change DCPU.	—	—

**19.3.11 0F51: Waste toner full sensor malfunction**

Relevant electrical parts	
Waste toner full sensor (PS7) Imaging cartridge	Print control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the PRCB connector for proper connection and correct as necessary.	—	—
2	PS7 sensor check	—	—
3	Change imaging cartridge.	—	—
4	Change PRCB.	—	—



**19.3.12 133C: Modem failure**

Relevant electrical parts	
FAX Board (FAXB)	



Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Main switch is turned OFF/ON. (except for the FAX communication)	—	—
2	Change FAXB	—	—



19.3.13 13C0: Print control board malfunction

Relevant electrical parts			
Print control board (PRCB)			
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Reboot the main body.	—	—
2	Change PRCB.	—	—

19.3.14 13DD: Backup data error

Relevant electrical parts			
Print control board (PRCB)		MFP board (MFPB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
 1	Execute the [BK CLEAR].	—	—
 2	Check the EEPROM for proper connection and correct as necessary.	—	—
3	Check the cable and connector for proper connection and correct as necessary.	—	—
4	Change PRCB.	—	—
5	Change MFPB.	—	—

19.3.15 13F0: Engine control failure

Relevant electrical parts			
Print control board (PRCB)		MFP board (MFPB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the cable and connector for proper connection and correct as necessary.	—	—
2	Change PRCB.	—	—
3	Change MFPB.	—	—

19.3.16 13E2: Engine flash ROM write error

Relevant electrical parts			
Print control board (PRCB)		MFP board (MFPB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the cable and connector for proper connection and correct as necessary.	—	—
2	Change PRCB.	—	—
3	Change MFPB.	—	—

19.3.17 0045: Exit tray cooling fan motor malfunction

Relevant electrical parts			
Exit tray cooling fan motor (FM4)		MFP board (MFPB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the FM4 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM4 operation check	PRCB PJ24-4 (REM) PRCB PJ24-6 (LOCK)	C-13
4	Change FM4.	—	—
5	Change MFPB.	—	—

### 19.3.18 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 the M101 connector for proper connection and correct as necessary.	—	—
2	Check M101 for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M101 operation check.	MFPB P2-1 to 4	1680MF: J-12 1690MF: J-6
5	Change PRCB.	—	—
6	Change DCPU.	—	—

### 19.3.19 14A3: IR lamp malfunction

Relevant electrical parts	
Scanner unit	MFP board (MFPB)

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 connector for proper connection and correct as necessary.	—	—
3	Change scanner unit.	—	—
4	Change MFPB.	—	—

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19.3.20 1038: Engine connect error

Relevant electrical parts			
Print control board (PRCB)		MFP board (MFPB)	
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 connector for proper connection and correct as necessary.	—	—
4	Check for proper connection between PRCB and MFPB and correct as necessary.	—	—
5	Change MFPB.	—	—
6	Change PRCB.	—	—

19.3.21 3FFF: Flash ROM write error

Relevant electrical parts			
Print control board (PRCB)		MFP board (MFPB)	
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 from PRCB and then plug it back in.	—	—
5	Change PRCB.	—	—
6	Change MFPB.	—	—

## 20. Power supply troubles

### 20.1 Machine is not energized at all (DCPU operation check)

Relevant electrical parts				
Power switch Printer control board (PRCB)		DC power supply (DCPU)		
Step	Check Item	Location (Electrical component)	Result	Action
1	Is the power source voltage being applied to CN6 on DCPU?	1680MF: J to K-8 1690MF: J to K-1	NO	Check wiring from power outlet to SW1 to CN1-N.
2	Are fuses (F1 and F2) on DCPU conducting?	—	NO	Change DCPU.
3	Are DC24 V and DC5 V being applied to PJ17 on the printer control board?	E-4 to 5	NO	Change DCPU.
			YES	Change PRCB.

### 20.2 Control panel indicators do not light

Relevant electrical parts				
MFP board (MFPB) Control panel		DC power supply (DCPU)		
Step	Check Item	Location (Electrical component)	Result	Action
1	Is the power source voltage being applied to CN6 on DCPU?	J-6	NO	Check wiring from power outlet to SW1 to CN1-N.
2	Are fuses (F1 and F2) on DCPU conducting?	—	NO	Change DCPU.
3	Is PJ1 on PRCB properly connected?	1680MF: F to G-10 1690MF: F to G-3 to 4	NO	Reconnect.
	Is P10 on MFPB properly connected?	1680MF: H-10 1690MF: H-3 to 4		
	Is P7 on MFPB properly connected?	1680MF: I-10 to 11 1690MF: I-3 to 4		
4	Is CN701 on control panel properly connected?	1680MF: J to K-10 to 11 1690MF: J to K-3 to 4	NO	Reconnect.
			YES	Change control panel. Change MFPB.

## 21. Image quality problems

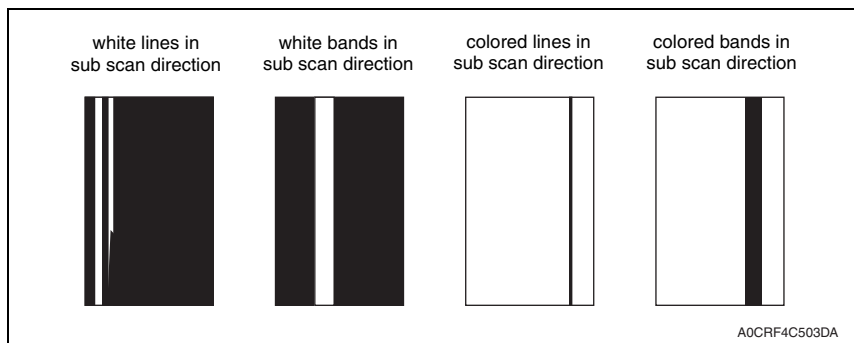
### 21.1 Printer system

#### NOTE

- Typical faulty image samples shown in the following are all printed with A4S setting.

#### 21.1.1 White lines/bands, colored lines/bands in sub scan direction

##### A. Typical faulty images

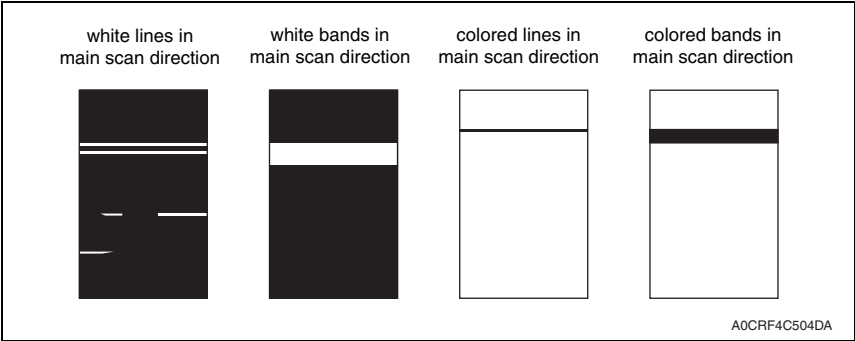


##### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the connector or contact terminal of the imaging cartridge connected properly?	NO	Clean the contact terminal.
4		Is the transfer belt dirty with fingerprints or oil?	YES	Clean.
5		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
6	PH unit	Is the connector or contact terminal of the PH unit connected properly?	NO	Clean the contact terminal or reconnect the connector.
7		Is the window surface dirty?	YES	Clean.
8	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
9	Media path	Is there a foreign object in the media path?	YES	Remove the foreign object.
10	Fuser unit	Is the fusing entrance guide plate dirty or scratched?	YES	Clean. Replace the fuser unit.
11		Have steps 1 to 10 eliminated the problem?	NO	Replace the toner cartridge. → Replace the PH unit.

### 21.1.2 White lines/bands, colored lines/bands in main scan direction

#### A. Typical faulty images



#### B. Troubleshooting procedure

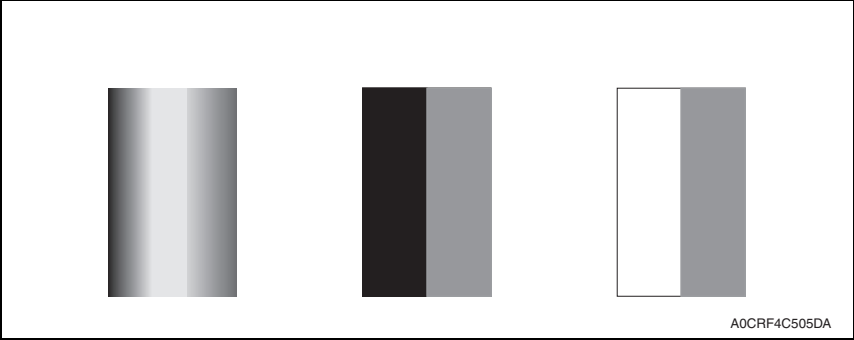
Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the connector or contact terminal of the imaging cartridge connected properly?	NO	Clean the contact terminal.
4		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
5	Toner cartridge	Is the developing bias contact terminal in good contact?	NO	Clean the contact terminal or check the terminal position.
6	PH unit	Is the connector or contact terminal of the PH unit connected properly?	NO	Clean the contact terminal or reconnect the connector.
7	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
8	Media path	Is there a foreign object in the media path?	YES	Remove the foreign object.
9	Fuser unit	Is the fusing entrance guide plate dirty or scratched?	YES	Clean.
10		Have steps 1 to 9 eliminated the problem?	NO	Replace the DC power supply.

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TROUBLESHOOTING

21.1.3 Uneven density in sub scan direction

A. Typical faulty images

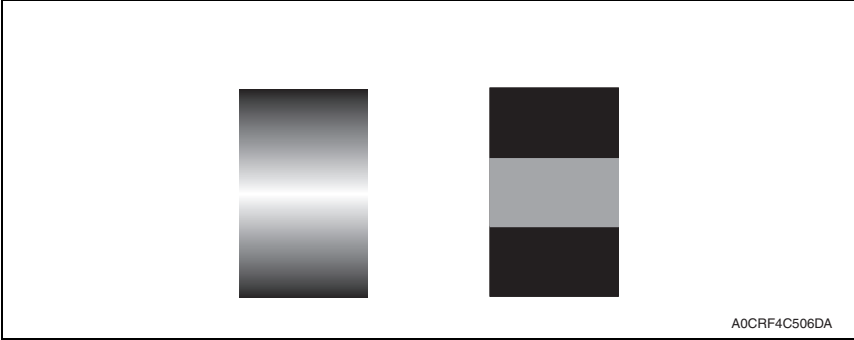


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
4		Is the terminal dirty?	YES	Clean.
5	PH unit	Is the window surface dirty?	YES	Clean.
6	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
7		Have steps 1 to 6 eliminated the problem?	NO	Replace the toner cartridge. → Replace the PH Unit. → Replace high voltage unit.

21.1.4 Uneven density in main scan direction

A. Typical faulty images

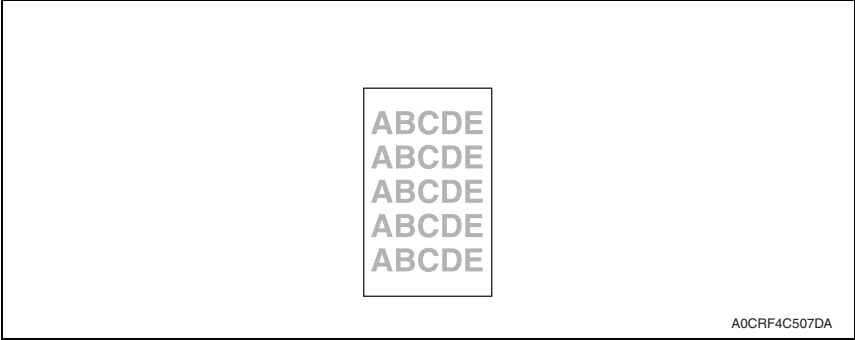


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the transfer belt dirty with fingerprints or oil?	YES	Clean.
4		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
5		Is the terminal dirty?	YES	Clean.
6	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
7		Have steps 1 to 6 eliminated the problem?	NO	Replace the toner cartridge. → Replace high voltage unit.

21.1.5 Low image density

A. Typical faulty images

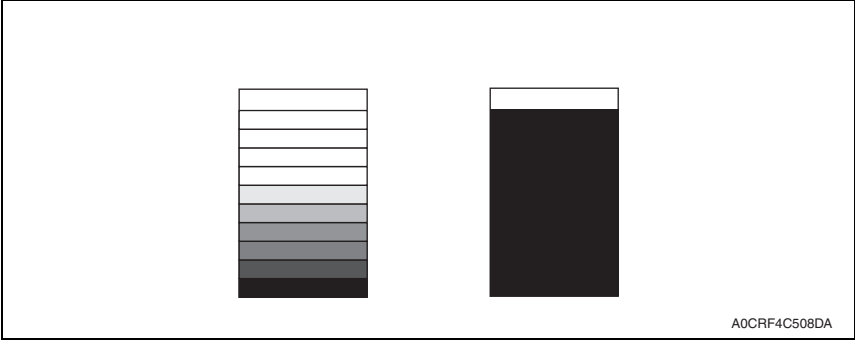


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Is the outside dirty?	YES	Clean.
2		Is the contact dirty?	YES	Clean.
3	PH unit	Is the window surface dirty?	YES	Clean.
4	2nd transfer roller	Is the contact dirty?	YES	Clean.
5	Media	Is the media damp?	YES	Replace the media with new media that has just been unwrapped.
6	IDC sensor board	Is the sensor dirty?	YES	Clean.
7		Have steps 1 to 6 eliminated the problem?	NO	Replace the toner cartridge. → Replace the Imaging cartridge. → Replace the 2nd transfer roller. → Replace the PH unit. → Replace the IDC sensor board. → Replace the printer control board. → Replace the high voltage unit.

21.1.6 Gradation reproduction failure

A. Typical faulty images

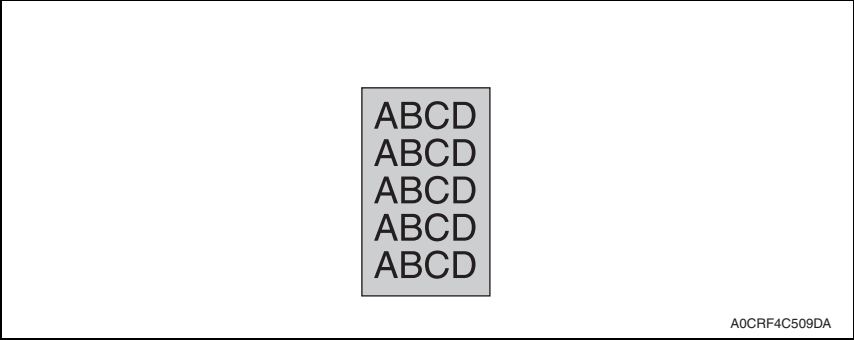


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Is the outside dirty?	YES	Clean.
2	PH unit	Is the window surface dirty?	YES	Clean.
3	IDC sensor board	Is the sensor dirty?	YES	Clean.
4		Have steps 1 to 3 eliminated the problem?	NO	Replace the toner cartridge. → Replace the PH unit. → Replace the IDC sensor board. → Replace the high voltage unit.

21.1.7 Foggy background

A. Typical faulty images



B. Troubleshooting procedure

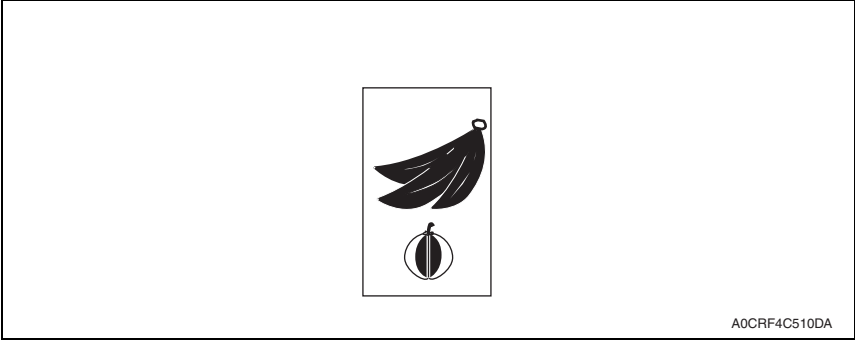
Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the contact terminal of the imaging cartridge connected properly?	NO	Clean the contact terminal.
4	Toner cartridge	Is the developing bias contact terminal in good contact?	NO	Clean the contact terminal or check the terminal position.
5	PH unit	Is the connector or contact terminal of the PH unit connected properly?	NO	Clean the contact terminal or reconnect the connector.
6		Is the window surface dirty?	YES	Clean.
7	IDC sensor board	Is the sensor dirty?	YES	Clean.
8		Have steps 1 to 7 eliminated the problem?	NO	Replace the toner cartridge. → Replace the PH unit. → Replace the IDC sensor board.

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TROUBLESHOOTING

21.1.8 Poor color reproduction

A. Typical faulty images

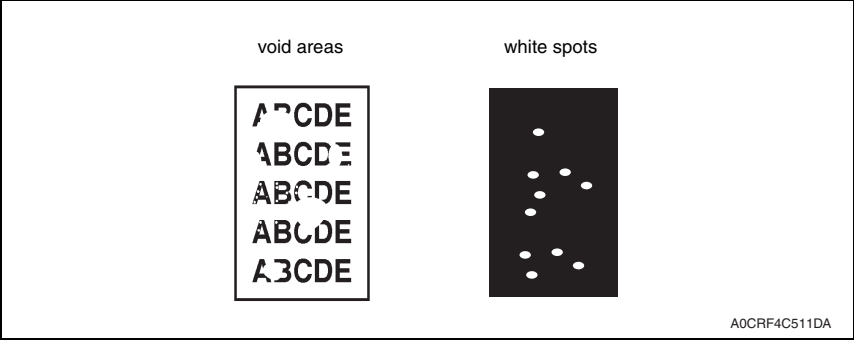


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Media	Is the media damp?	YES	Replace the media with new media that has just been unwrapped.
2	imaging cartridge	Is the terminal dirty?	YES	Clean.
3	IDC sensor board	Is the sensor dirty?	YES	Clean.
4		Have steps 1 to 3 eliminated the problem?	NO	Replace the imaging cartridge. → Replace the IDC sensor board. → Replace the printer control board. → Replace the high voltage unit.

21.1.9 Void areas, white spots

A. Typical faulty images

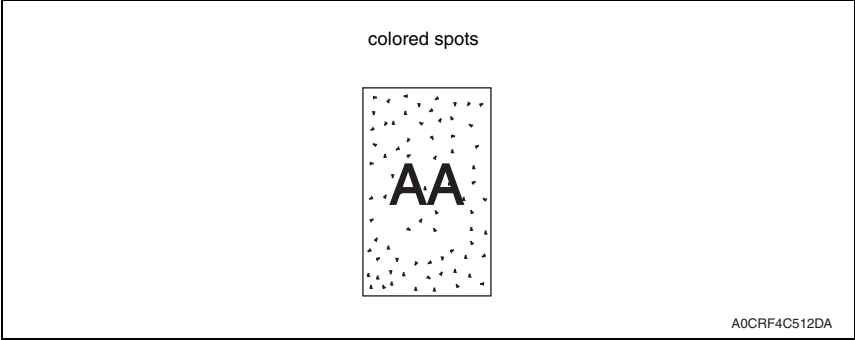


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
2		Is the outside dirty?	YES	Clean.
3		Is the transfer belt dirty with fingerprints or oil?	YES	Clean.
4		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
5		Is the ground terminal connected properly?	NO	Correct.
6	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
7	Media path	Is there a foreign object in the media path?	YES	Remove the foreign object.
8		Is the fusing entrance guide plate dirty or scratched?	YES	Clean or replace.
9		Have steps 1 to 8 eliminated the problem?	NO	Replace the toner cartridge.

21.1.10 Colored spots

A. Typical faulty images

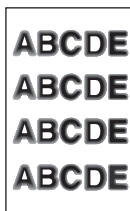


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Are the spots in a single color?	NO	Replace the imaging cartridge.
2		Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
3		Is the Transfer Belt dirty with fingerprints or oil?	YES	Clean.
4		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
5	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
6	Media path	Is there a foreign object in the media path?	YES	Remove the foreign object.
7	Fuser unit	Is the fusing roller dirty or scratched?	YES	Replace the fuser unit.
8		Have steps 1 to 7 eliminated the problem?	NO	Replace the toner cartridge.

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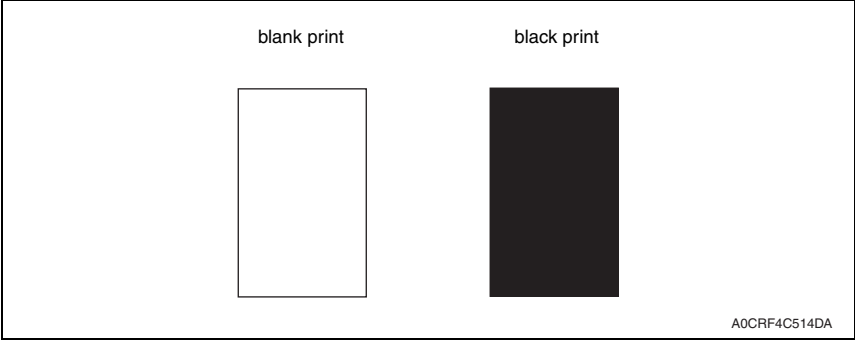
**21.1.11 Blurred image****A. Typical faulty images**

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**B. Troubleshooting procedure**

21.1.12 Blank copy, black copy

A. Typical faulty images

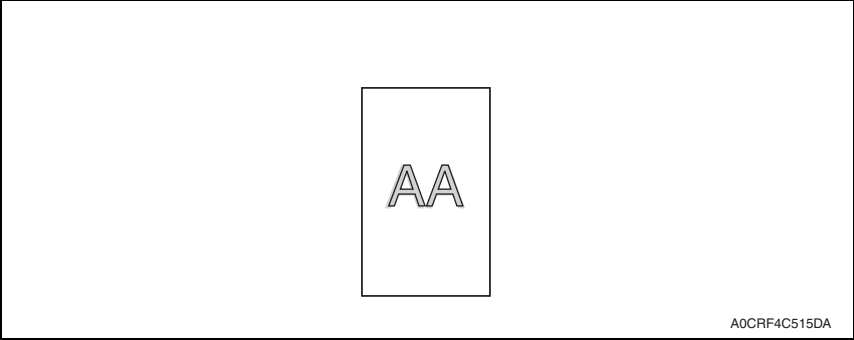


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	Does a blank print occur?	YES	Check the PH unit connector for proper connection.
2	Imaging cartridge	Is the gear of the imaging cartridge drive mechanism installed properly?	NO	Check or correct the drive transmitting section or replace the imaging cartridge.
3		Is the charge corona voltage contact or photo conductor ground contact of the imaging cartridge connected properly?	NO	Check, clean, or correct the contact.
4	High voltage unit	Is the connector connected properly?	NO	Reconnect.
5		Have steps 1 to 4 eliminated the problem?	NO	Replace the high voltage unit. → Replace the printer control board. → Replace the PH unit.

21.1.13 Incorrect color image registration

A. Typical faulty images

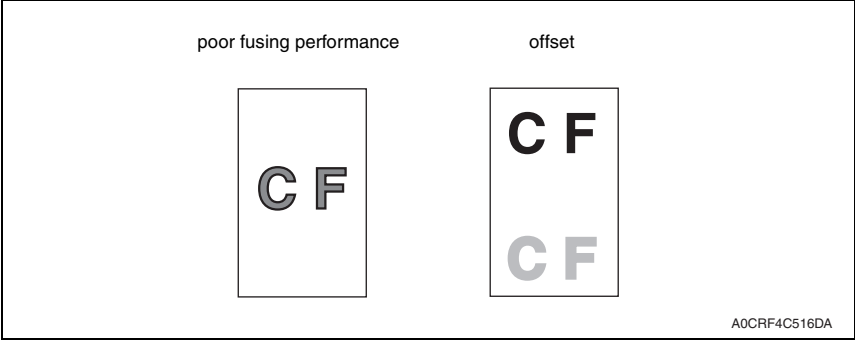


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging cartridge	Is the transfer belt dirty with fingerprints or foreign matter?	YES	Clean.
2		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
3		Is the photo conductor scratched?	YES	Replace the imaging cartridge.
4		Is the drive coupling to the machine dirty?	YES	Clean.
5	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
6		Have steps 1 to 5 eliminated the problem?	NO	Replace the PH unit. → Replace the printer control board.

21.1.14 Poor fusing performance, offset

A. Typical faulty images

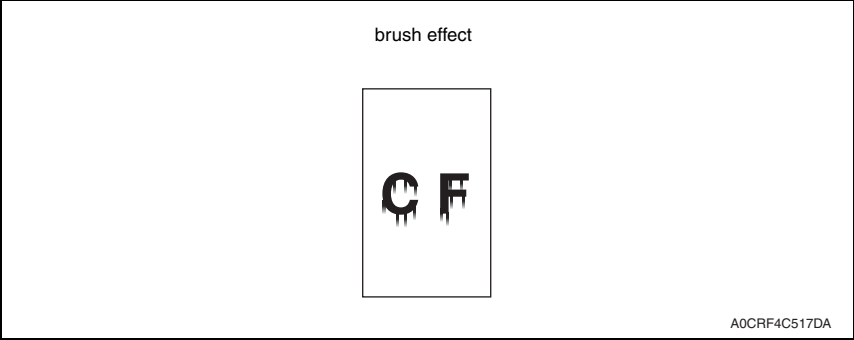


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Media	Does the media being used conform to specifications?	NO	Replace the media.
2	Fuser unit	Are the fuser separator levers in the correct position?	NO	Correct.
3		Have steps 1 to 2 eliminated the problem?	NO	Replace the fuser unit. → Replace the printer control board.

21.1.15 Brush effect

A. Typical faulty images

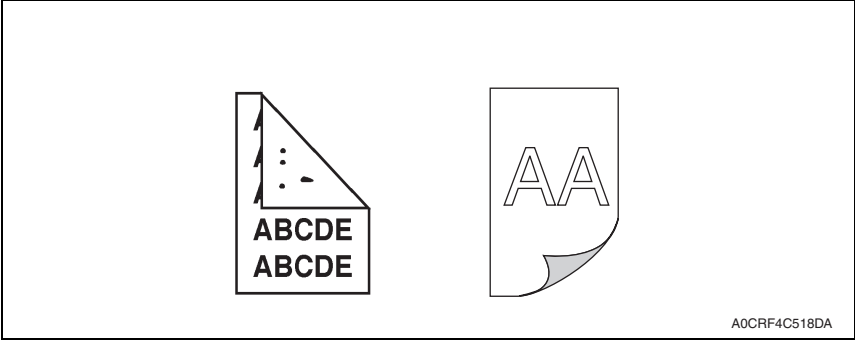


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Media	Is the media damp?	YES	Replace the media with new media that has just been unwrapped.
2		Does the media being used conform to specifications?	NO	Replace the media.
3	Imaging cartridge	Are there scratches or lines evident on the photo conductor surface?	YES	Replace the imaging cartridge.
4		Is the transfer belt dirty with fingerprints or oil?	YES	Clean.
5		Is the transfer belt dirty or scratched?	YES	Wipe the surface clean of dirt with a soft cloth. Replace the scratched transfer belt with a new imaging cartridge.
6	Fuser unit	Is the fusing entrance guide plate dirty?	YES	Clean.
			NO	Replace the fuser unit.

### 21.1.16 Back marking

#### A. Typical faulty images

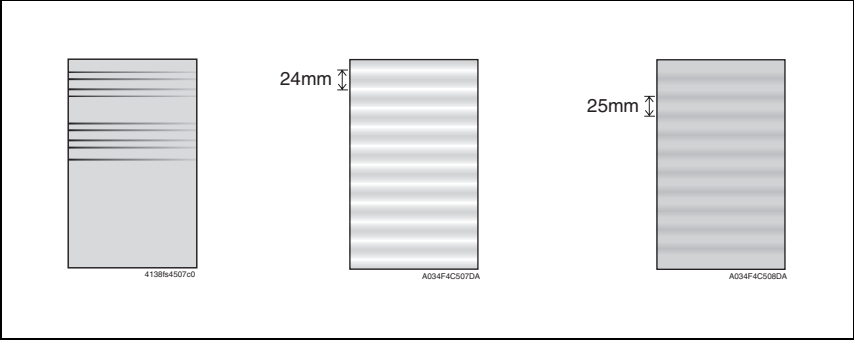


#### B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Media path	Is there a foreign object in the media path?	YES	Remove the foreign object.
2	Fuser unit	Is the fusing entrance guide plate dirty or scratched?	YES	Clean or replace.
3		Is the fusing roller scratched or dirty?	YES	Replace the fuser unit.
4	imaging cartridge	Is the transfer belt dirty with fingerprints or foreign matter?	YES	Clean.
5	2nd transfer roller	Is the 2nd transfer roller dirty or scratched?	YES	Replace the 2nd transfer roller.
6		Have steps 1 to 5 eliminated the problem?	NO	Replace the imaging cartridge. → Replace the fuser unit. → Replace the high voltage unit.

21.1.17 Pitch lines, pitch uneven density

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	Do faint lines extending in parallel with the main scanning direction occur at a pitch of 24 mm?	YES	<ul style="list-style-type: none"><li>Execute [UTILITY] - [MACHINE SETTING] - [IMAGE REFRESH]. <a href="#">See P.91</a></li></ul> <b>NOTE</b> <ul style="list-style-type: none"><li><b>If one image refresh sequence does not make the faint lines less noticeable, run it a second time.</b></li></ul>
		Does uneven density at a pitch of 25 mm occur?	YES	<ul style="list-style-type: none"><li>Leave the main unit to stand idle under environment free of high humidity.</li></ul>
2	Toner cartridge	Is the toner cartridge for each color of toner installed in position?	NO	Reinstall.
3	PH unit	Is the PH unit secured in position with the fixing screw?	NO	Secure it in position.
4	Toner cartridge	Is the drive mechanism of the toner Cartridge dirty or damaged?	YES	Clean or replace the toner cartridge.
5	Imaging cartridge	Is the photo conductor dirty, scratched, or worn?	YES	Replace the imaging cartridge.
6	2nd transfer roller	Are the 2nd transfer roller and drive mechanism dirty, deformed, or worn?	YES	Replace the 2nd transfer roller.
7	Fuser unit	Are the rollers and drive mechanism of the fuser unit dirty, scratched, deformed, or worn?	YES	Replace the fuser unit.
8		Have steps 1 to 7 eliminated the problem?	NO	Replace the imaging cartridge.

## 22. FAX error



### 22.1 When faxing is not performed correctly

- To explain the solution when faxing is not performed correctly.

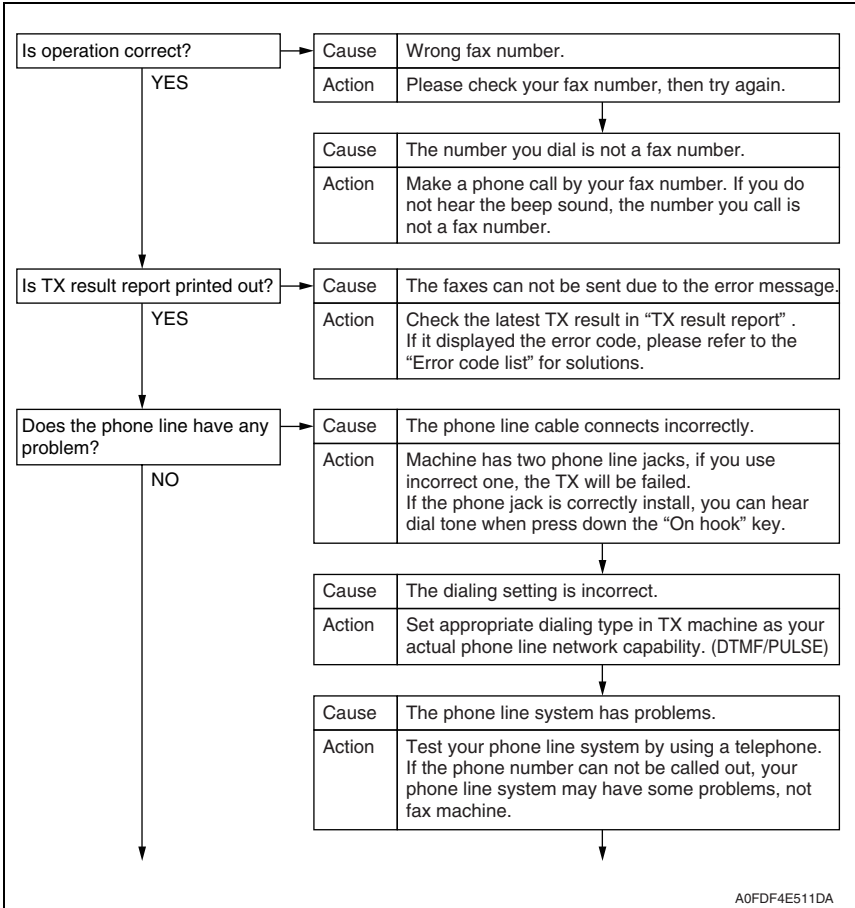
#### NOTE

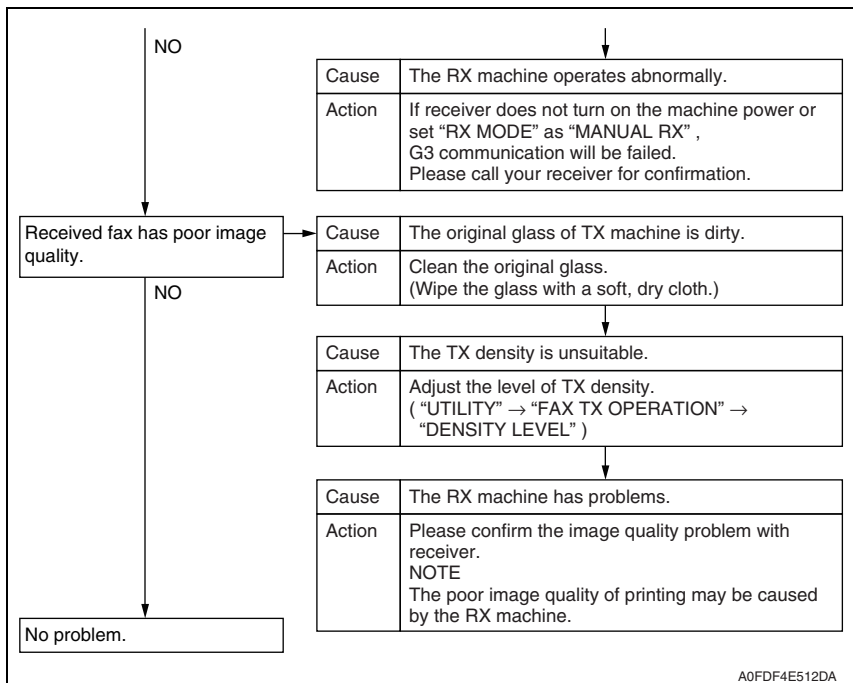
- magicolor 1690MF does not support the “ISDN/DSL/ADSL” cable officially, it may cause the fax failed in such user environment.**



#### 22.1.1 Can not send a fax

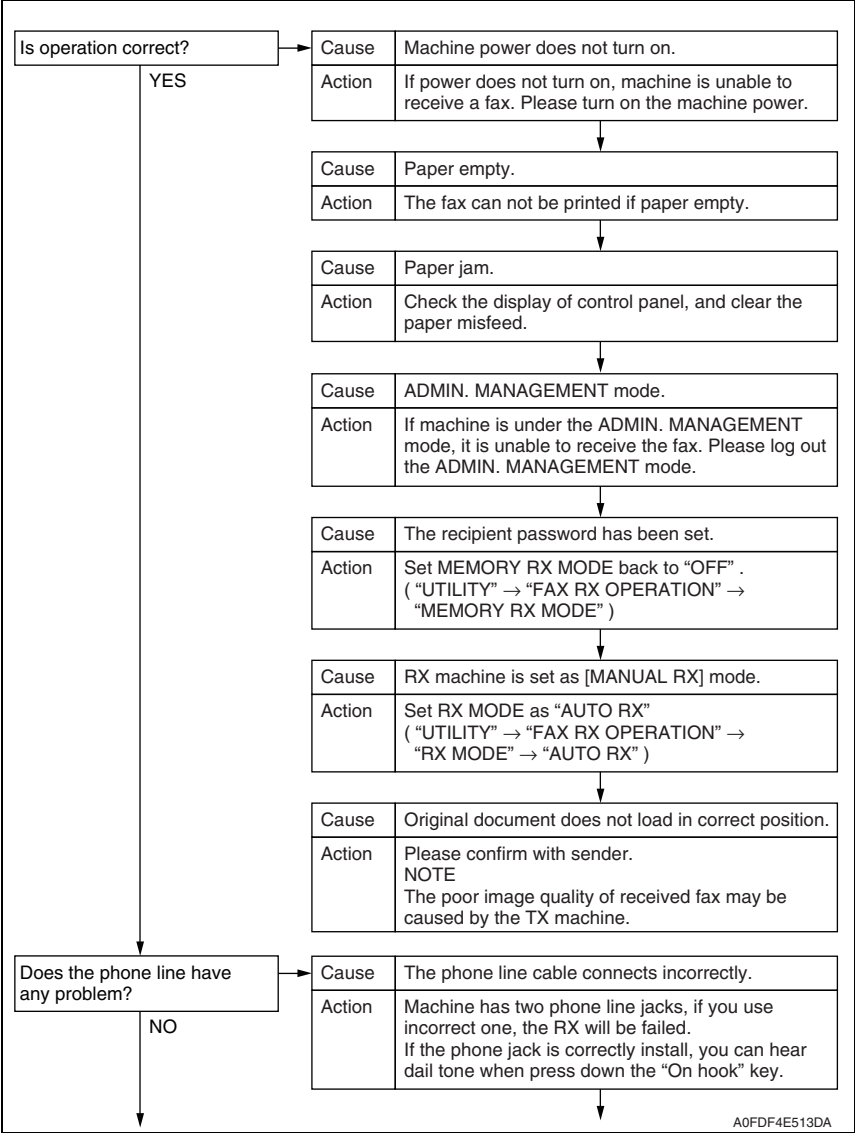
- To explain the solution when fax can not be sent.





 **22.1.2 Can not receive a fax**

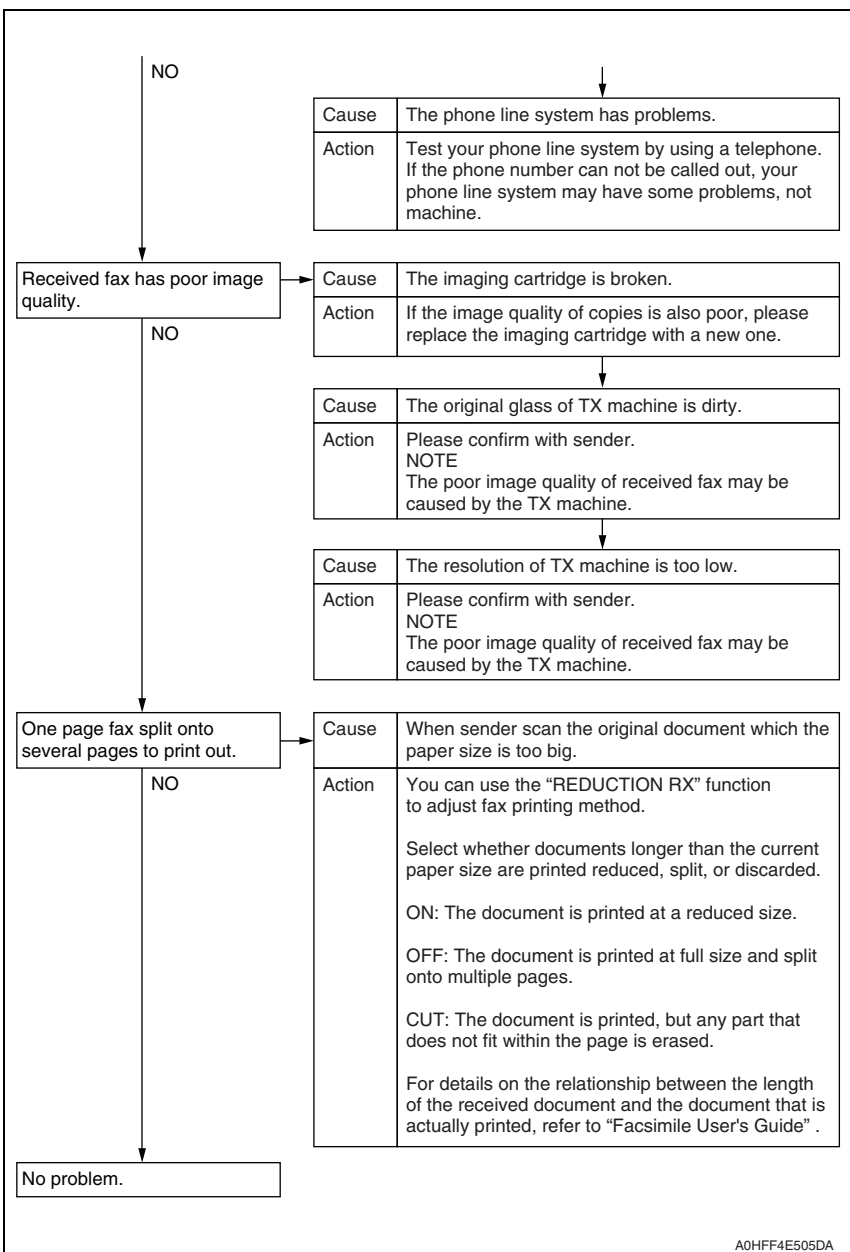
- To explain the solution when fax can not be received.



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**22.1.3     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.

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## 22.2 Communication error

-----CAUTION-----  
COMMUNICATION  
ERROR(####)  
( PRESS ANY KEY )

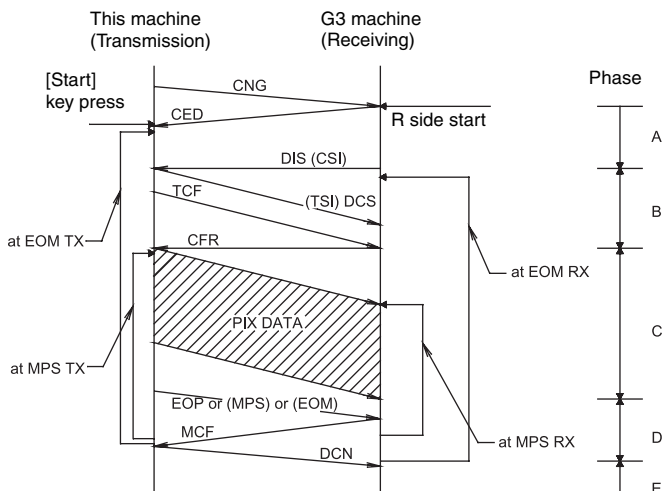
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### 22.2.1 Outline

- 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.

### 22.2.2 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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### 22.2.3 Error occurring during reception

- Reception is canceled.

## ⚠ 22.3 Error code list

### 22.3.1 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.
0027	Detect machine prohibit Remote monitor connected.
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.

Code	Possible causes of error
0046	Receive incorrect signal when sending RNR which response with ERR signal.
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.



**22.3.2 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.
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.
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.
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.

Code	Possible causes of error
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.

## 22.4 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 user service mode to boost TX level of magicolor 1690MF.  
(USER SERVICE MODE → FAX MAINTENANCE → TX LEVEL)**

#### A. How to enter user service mode?

- Select [UTILITY] with the ▲/▼ key and press the Select key.
- Keep on pressing ◀ key over two seconds.

#### B. How to exit user service mode?

- Press the Stop/Reset key.

### 22.4.1 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 LIST or SPEED DIAL LIST of machine.</li> <li>2. Print out the GROUP DIAL LIST and SPEED DIAL LIST 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>

 **22.4.2 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: 00EE**

Definition	At phase D, transmitting units out PPS_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. 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: 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>

**(58) 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>

**(59) 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>

**(60) 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>

**(61) 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>

**(62) 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>

**(63) 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>

 **(64) 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>

 **(65) 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>

 **(66) 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>

 **(67) 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>

 **(68) 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>

**(69) 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>

**(70) 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>

**(71) 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>

**(72) 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>

**(73) 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>

**(74) 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>

 **(75) 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>

 **(76) 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>

 **(77) 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>

 **(78) 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>

 **(79) 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>

 **(80) 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>

**(81) 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>

**(82) 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>

**(83) 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>

**(84) 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 SW15 [6-8] to "000" or "001" or "010" or "101", change to accord with the switchboard environment.</li> </ol>

## 22.5 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 Control 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# 06 bit (3,4) from (1,1) to (0,0)
6	Check the fax control board for correct installation.	YES	Go to step 7.
		NO	Reinstall the fax control board.
7	Does the error still occur when faxing?	YES	Replace the fax control board.
		NO	Complete.

 **22.6 FAX line says talking**

- Review the following information to determine why fax line says talking.

**A. Troubleshooting procedure**

Relevant electrical parts			
FAX Control 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 control board for correct installation.	YES	Go to step 5.
		NO	Reinstall the fax control board.
5	Does the error still occur when faxing?	YES	Replace the fax control board.
		NO	Complete.

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 **22.7 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 Control 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	Replace 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 control board for correct installation.	YES	Go to step 6.
		NO	Reinstall the fax control board.
6	Does the error still occur when faxing?	YES	Replace the fax control board.
		NO	Complete.

 **22.8 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"

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TROUBLESHOOTING

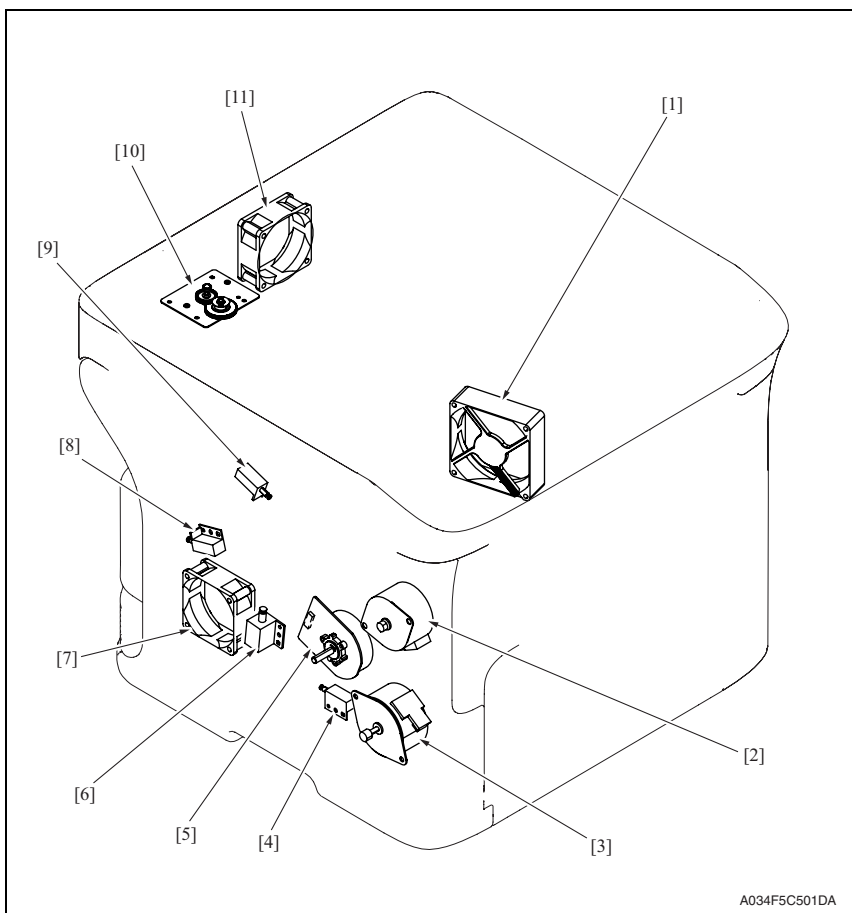
## 23. Scan error

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	

# APPENDIX

## 24. Parts layout drawing

### 24.1 Main body



[1] DC power supply fan motor (FM1)

[2] Rack motor (M2)

[3] Developing motor (M3)

[4] Tray1 media feed solenoid (SD1)

[5] Transport motor (M1)

[6] Registration roller solenoid (SD2)

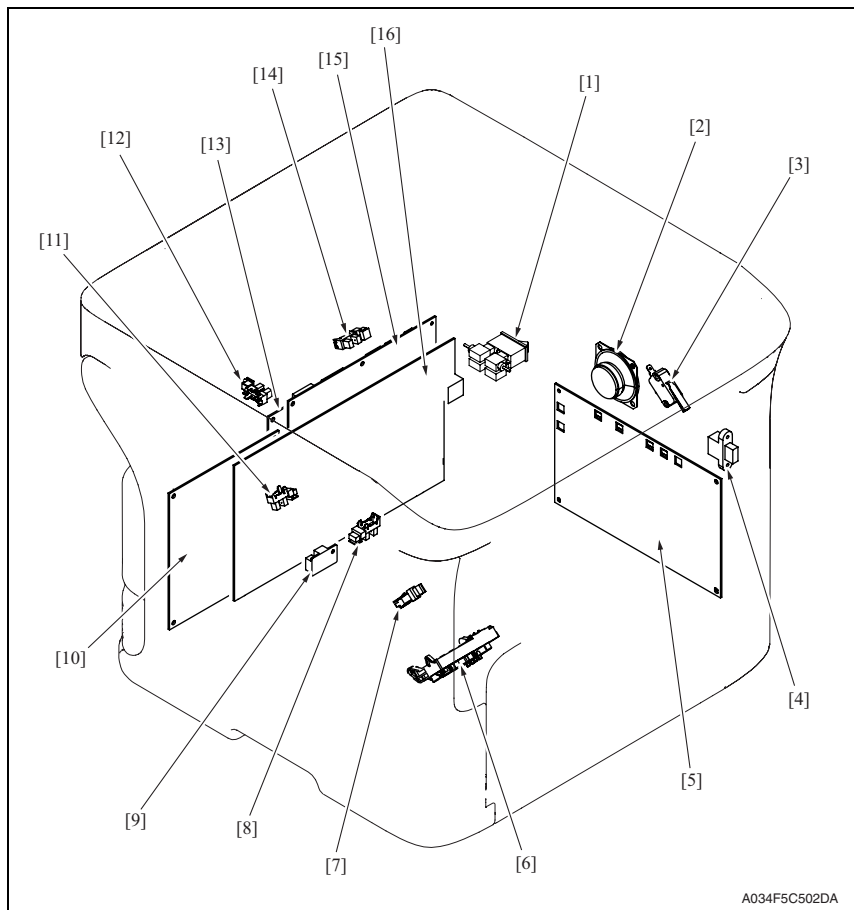
[7] Ozone ventilation fan motor (FM2)

[8] 2nd image transfer pressure/retraction solenoid (SD4)

[9] Cleaning blade pressure/retraction solenoid (SD5)

[10] Scanner motor (M101)

[11] Exit tray cooling fan motor (FM4)



A034F5C502DA

[1] Main power switch (SW1)

[2] Speaker (SP) &lt;\*&gt;

[3] Interlock switch (MS2)

[4] USB port (USB)

[5] High voltage unit (HV)

[6] Contact switch (SW5)

[7] Rack positioning sensor (PS5)

[8] Registration sensor (PS2)

[9] Temperature/ humidity sensor (TEM/HUMS)

[10] Print control board (PRCB)

[11] 2nd image transfer retraction position sensor (PS3)

[12] Media full sensor (PS16)

[13] FAX control board (FAXB) &lt;\*&gt;

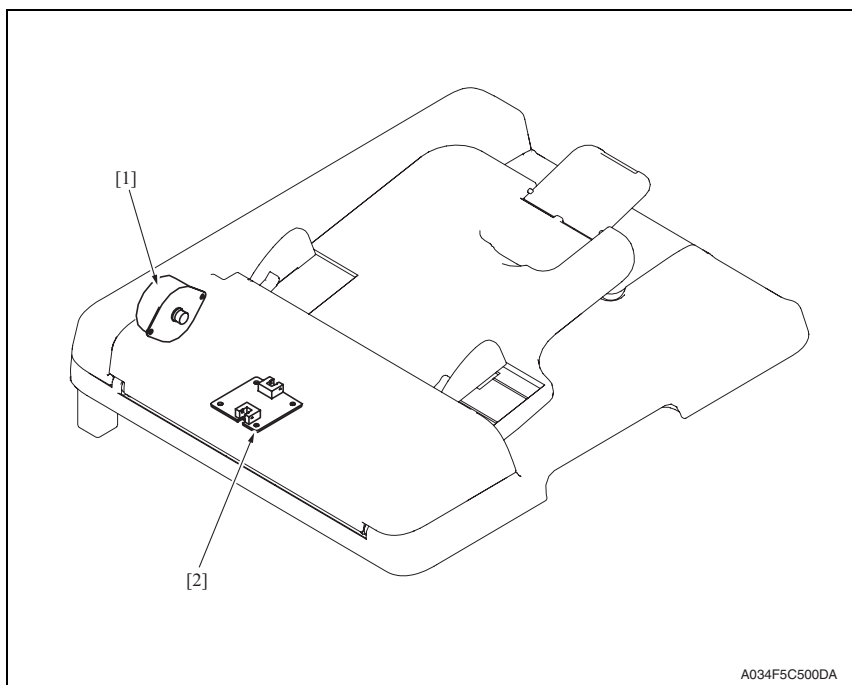
[14] Exit sensor (PS4)

[15] MFP board (MFPB)

[16] DC power supply (DCPU)

&lt;\*&gt;: Only magicolor 1690MF

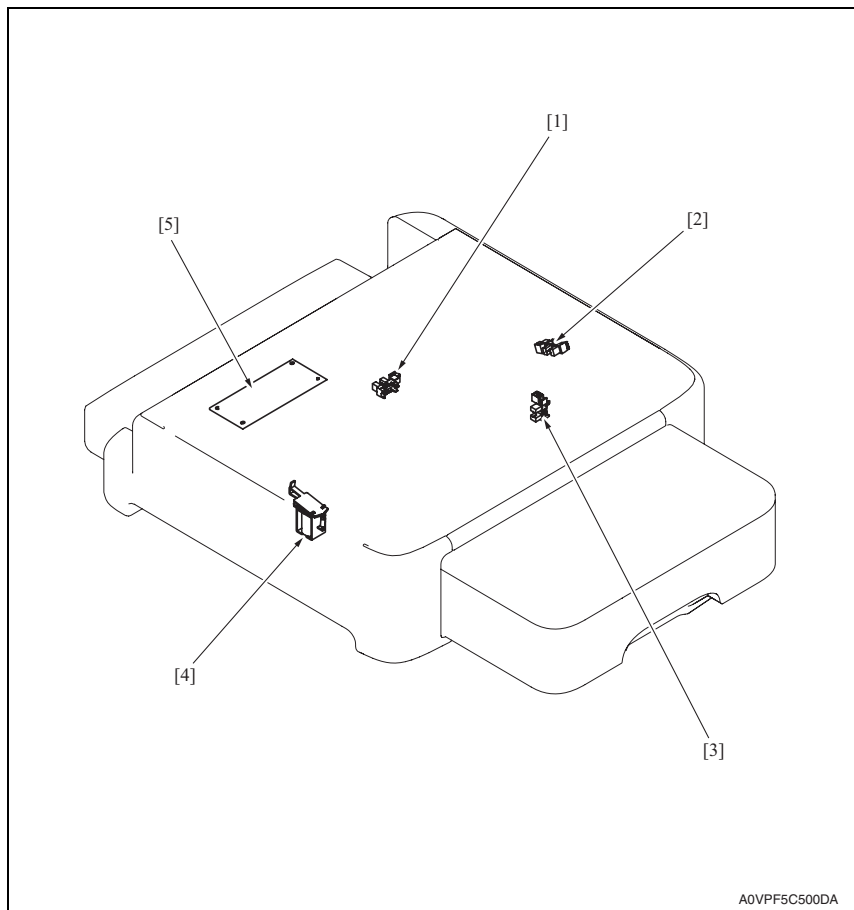
## 24.2 Auto document feeder (only magicolor 1690MF)



[1] DF transport motor (M100)

[2] Relay board/1 (REYB/1)

### 24.3 Lower feeder unit (option)



A0VPF5C500DA

[1] Transport sensor (PS12)

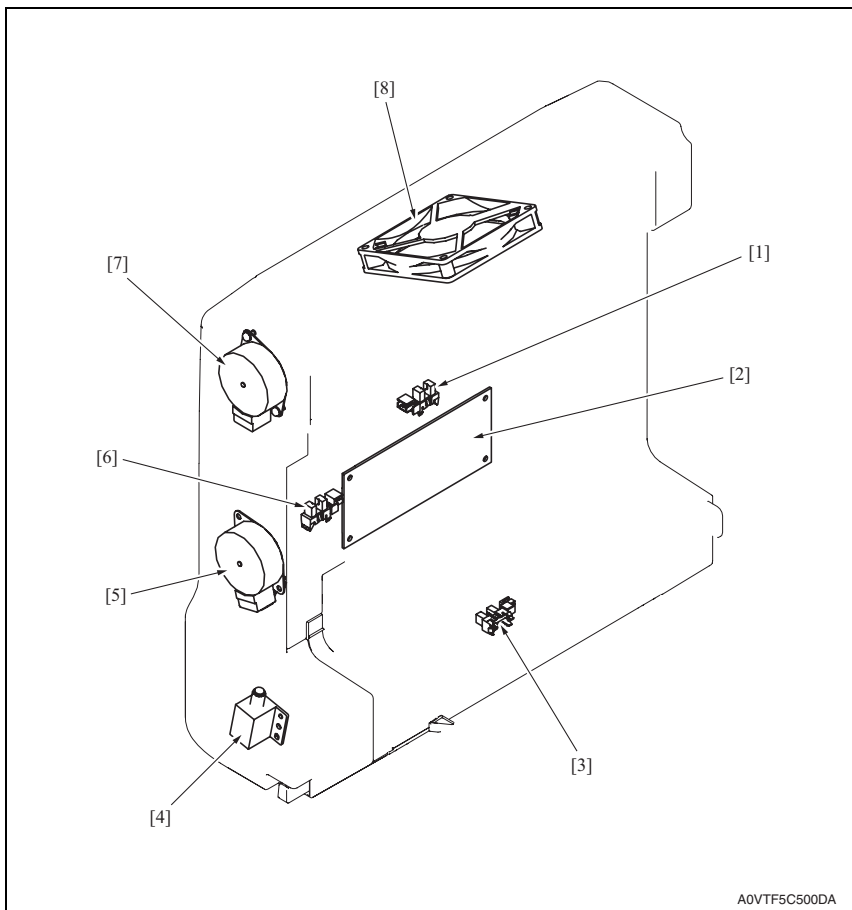
[2] Media empty sensor (PS10)

[3] Tray set sensor (PS11)

[4] Media feed solenoid (SD6)

[5] PC control board (PCCB)

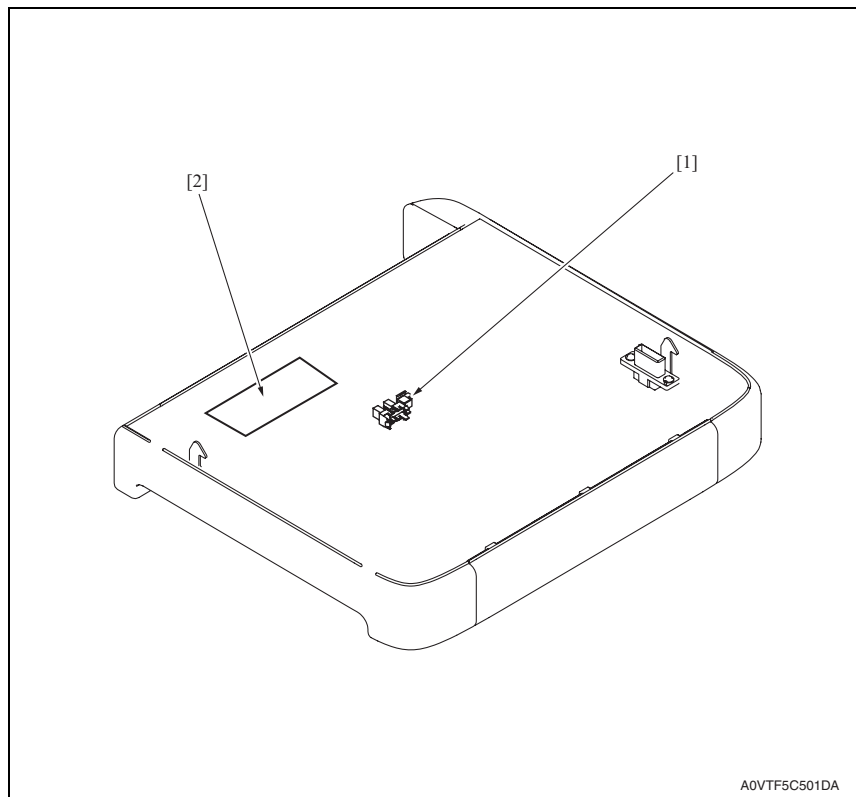
## 24.4 Duplex option (option)



- [1] Transport sensor/1 (PS15)
- [2] AD drive board (ADDB)
- [3] Loop sensor (PS13)
- [4] Registration solenoid (SD7)

- [5] Transport motor (M6)
- [6] Door sensor (PS14)
- [7] Switchback motor (M5)
- [8] Cooling fan motor (FM3)

## 24.5 Duplex option attachment (option)



[1] Transport sensor/2 (PS17)

[2] Relay board/2 (REYB/2)

25. Connector layout drawing

Description

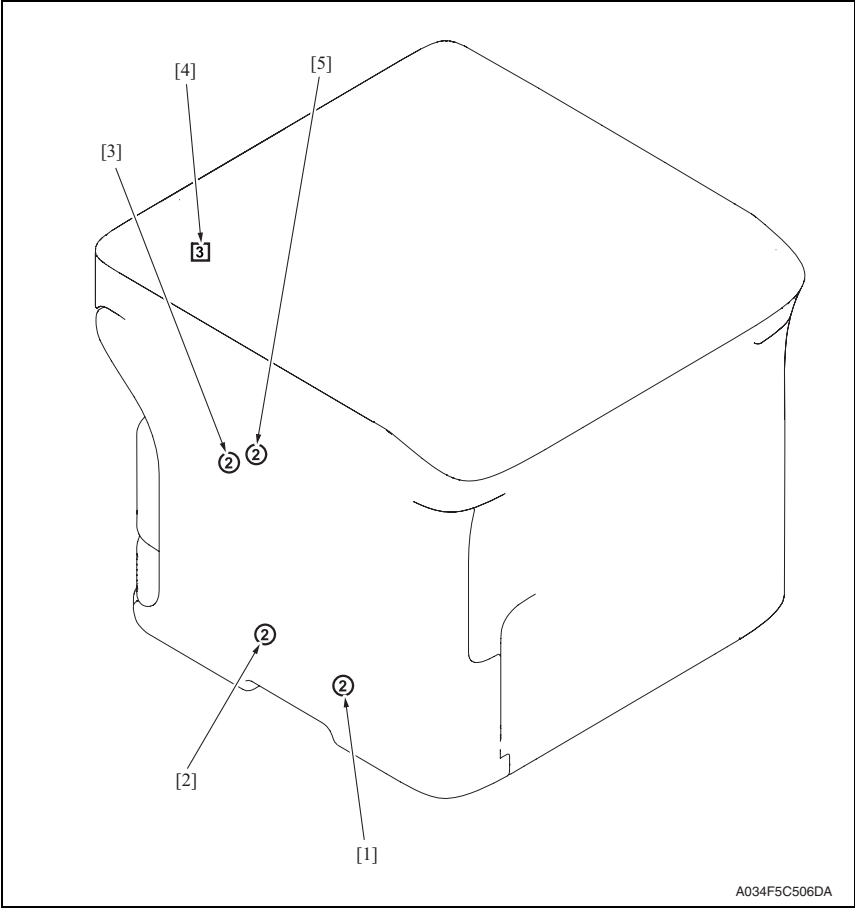
Number of Pin

①

Possible to confirm by removing external cover.

1

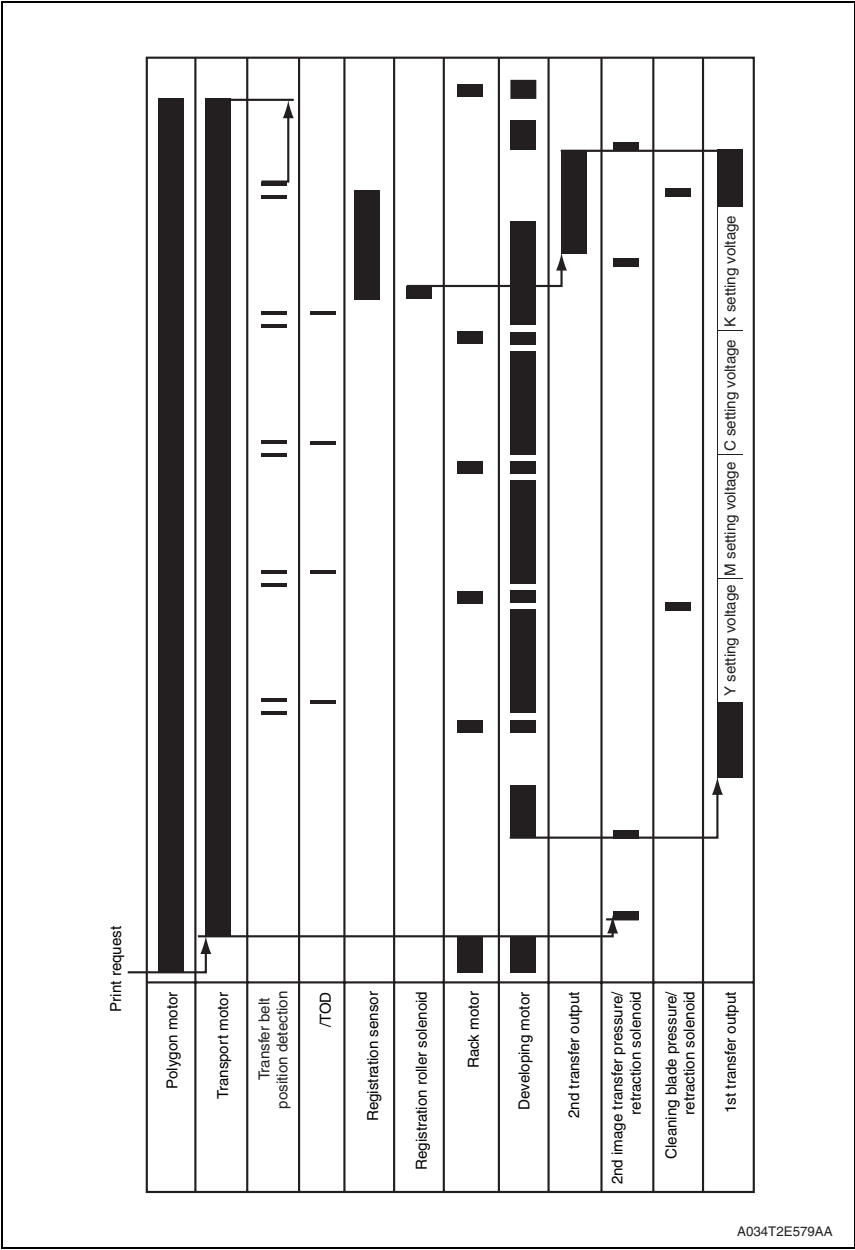
Not possible to confirm by removing external cover.



No.	CN No.	Location	No.	CN No.	Location
[1]	CN2	D-10	[4]	CN14	D-13
[2]	CN3	D-9	[5]	CN6	D-11
[3]	CN5	D-9			

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26. Timing chart





KONICA MINOLTA

**SERVICE MANUAL**

FIELD SERVICE

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# Lower Feeder Unit

# 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.

2010/12	2.0		Error correction/Information addition
2008/11	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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Lower Feeder Unit

OUTLINE

MAINTENANCE

TROUBLESHOOTING

# OUTLINE

## 1. Product specifications

### 1.1 Type

Name	Add-on 500-sheet paper feed cassette
Installation	Desk type
Document alignment	Center

### 1.2 Paper type

Paper size	A4S/LetterS
Paper type	Plain paper: 60 to 90 g/m <sup>2</sup> (16 to 24 lb)
Capacity	500 sheets

### 1.3 Machine specifications

Power requirements	DC 24 V $\pm$ 10 % (supplied from the main unit)
	DC 5 V $\pm$ 5 %
Max. power consumption	10 W
Dimensions	430 (W) $\times$ 500 (D) $\times$ 138 (H) mm 16.9 (W) $\times$ 19.6 (H) $\times$ 5.4 (D) inch
Weight	Approx. 4.6 kg (10.1 lb)

### 1.4 Operating environment

Temperature	10 to 35 °C / 50 to 95 °F (with a fluctuation of 10 °C / 18 °F or less per hour)
Humidity	15 % to 85 % (with a fluctuation of 20 %/h)

#### NOTE

- These specifications are subject to change without notice.

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# MAINTENANCE

## 2. Periodic check

### 2.1 Maintenance procedure (Periodic parts check)

- Periodically replaced parts are not employed.

### 3. Other

#### 3.1 Disassembly/adjustment prohibited items

##### 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.

3.2 Disassembly/Assembly list (Other parts)

3.2.1 Disassembly/assembly parts list

No	Section	Part name	Ref. page
1	-	Lower Feeder Unit	<a href="#">P.6</a>
2	Exterior parts	Right cover	<a href="#">P.7</a>
3		Left cover	<a href="#">P.7</a>
4		Rear cover	<a href="#">P.7</a>
5	Unit	Pick-up roller	<a href="#">P.8</a>
6		Media pick-up drive unit	<a href="#">P.8</a>
7	Board and etc	PC control board (PCCB)	<a href="#">P.10</a>
8	Others	Media feed solenoid (SD6)	<a href="#">P.11</a>

3.2.2 Cleaning parts list

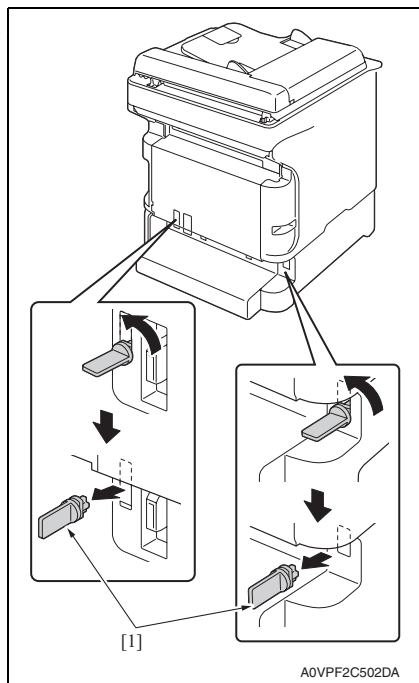
No	Section	Part name	Ref. page
1	Rollers	Pick-up rollers	<a href="#">P.12</a>

### 3.3 Disassembly/Assembly procedure

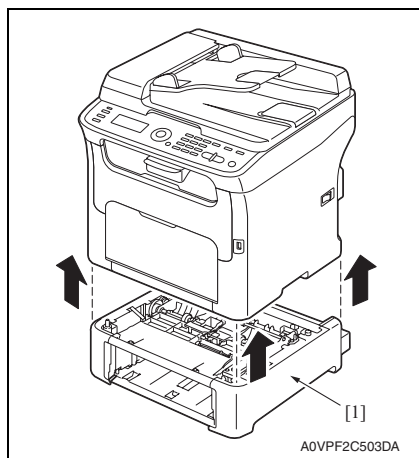
#### 3.3.1 Lower Feeder Unit

##### NOTE

- Whenever removing or reinstalling the Lower Feeder Unit, be sure first to unplug the power cord of the printer from the power outlet.



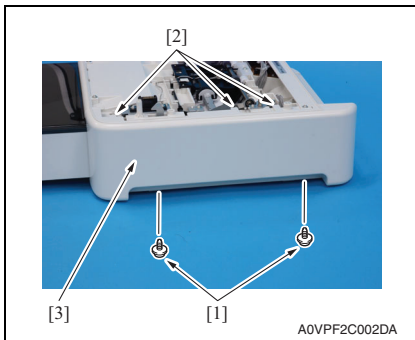
1. Remove two locking pins [1].



2. Lift the printer main body and then remove the Lower Feeder Unit [1] from the printer.

### 3.3.2 Right cover

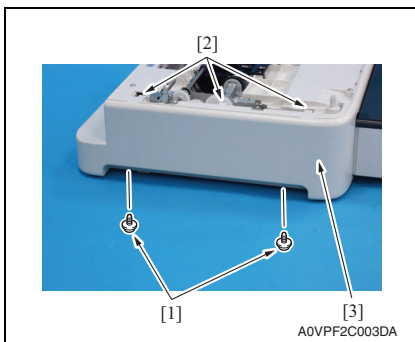
1. Remove the Lower Feeder Unit from the main body.



2. Remove two screws [1] and unhook three tabs [2], and remove the right cover [3].

### 3.3.3 Left cover

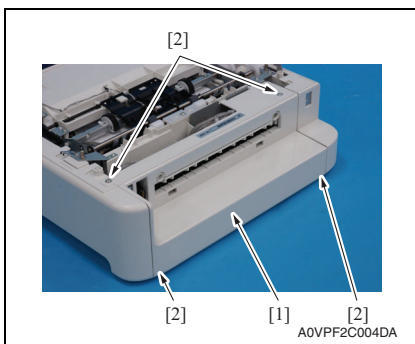
1. Remove the Lower Feeder Unit from the main body.



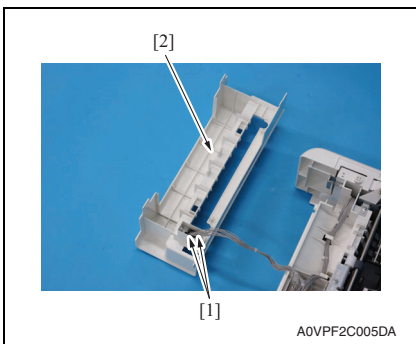
2. Remove two screws [1] and unhook three tabs [2], and remove the left cover [3].

### 3.3.4 Rear cover

1. Slide out the tray.



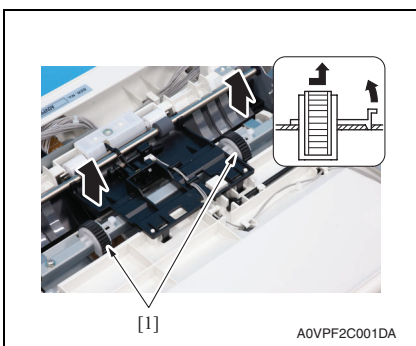
2. Remove four screws [1], and remove the rear cover [2].



3. Disconnect two connectors [1], and remove the rear cover [2].

### 3.3.5 Pick-up roller

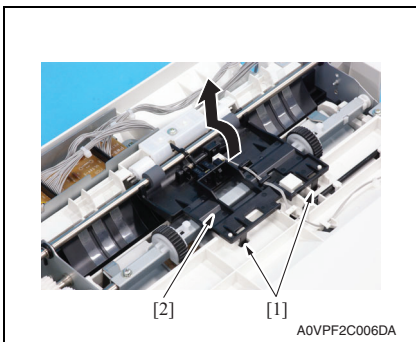
1. Remove the Lower Feeder Unit from the main body.



2. Remove two pick-up rollers [1].

### 3.3.6 Media pick-up drive unit

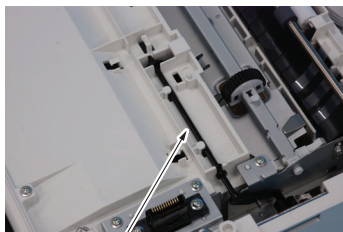
1. Remove the right cover.  
[See P.7](#)
2. Remove the left cover.  
[See P.7](#)
3. Remove the rear cover.  
[See P.7](#)
4. Slide out the tray.



5. Unlock two tabs [1] and remove the cover [2].

#### NOTE

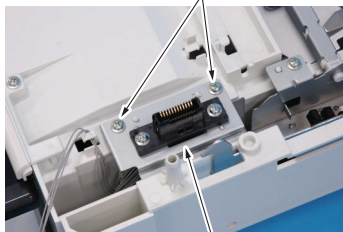
- **Make sure to take off the harness from the guide when removing it.**



[1]

A0VPF2C007DA

6. Remove the actuator [1].

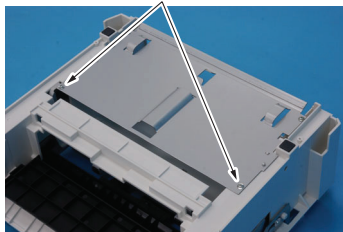


[1]

[2]

A0VPF2C008DA

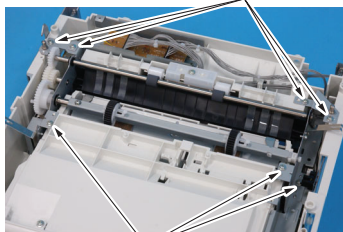
7. Remove two screws [1], and remove the connector fixing plate [2].



[1]

A0VPF2C009DA

8. Remove two screws [1] on the bottom of media feed unit.

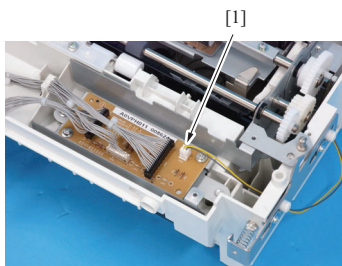


[1]

[1]

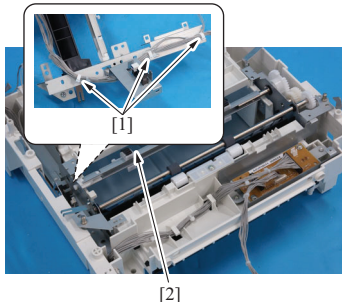
A0VPF2C010DA

9. Remove seven screws [1], and slide out the media pick-up drive unit [2].



A0VPF2C011DA

10. Remove the harness from three wire saddles [1].

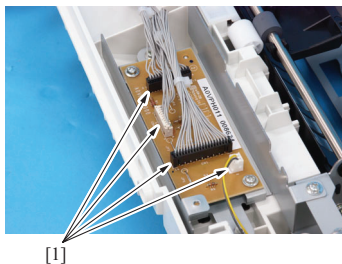


A0VPF2C012DA

11. Remove the harness from three wire saddles [1].
12. Remove the media pick-up drive unit [2].

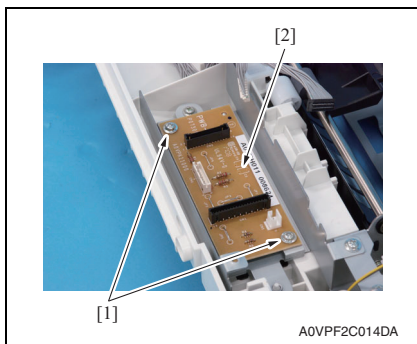
### 3.3.7 PC control board (PCCB)

1. Remove the lower feeder unit.  
[See P.6](#)
2. Remove the rear cover.  
[See P.7](#)



A0VPF2C013DA

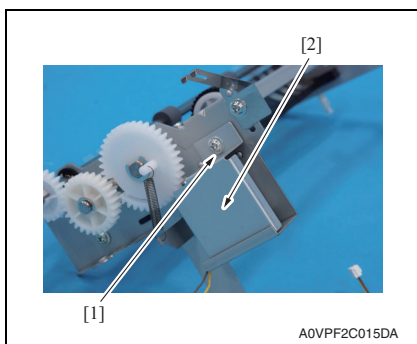
3. Disconnect four connectors [1] from the PC control board.



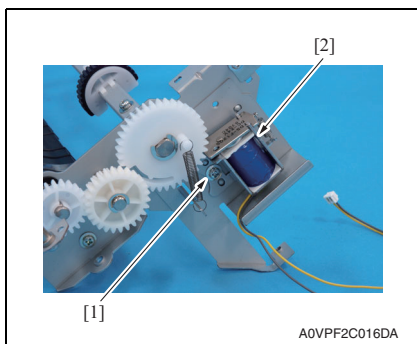
4. Remove two screws [1] and the PC control board [2].

### 3.3.8 Media feed solenoid (SD6)

1. Remove the media pick-up drive unit.  
[See P.8](#)



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



3. Remove the screw [1], and remove the media feed solenoid [2].

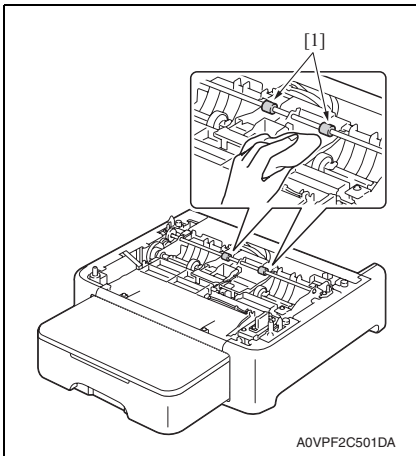
## 3.4 Cleaning procedure

### NOTE

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

#### 3.4.1 Pick-up roller

1. Remove the Lower Feeder Unit from the main body.



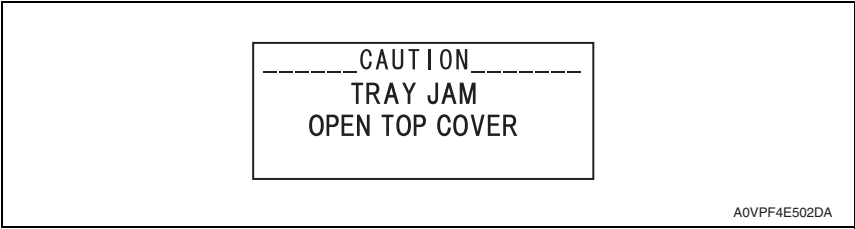
2. Wipe the pick-up roller [1] clean of dirt using a cleaning pad dampened with alcohol.

# TROUBLESHOOTING

## 4. Jam display

### 4.1 Misfeed display

- When a media misfeed occurs a message is displayed on the control panel.



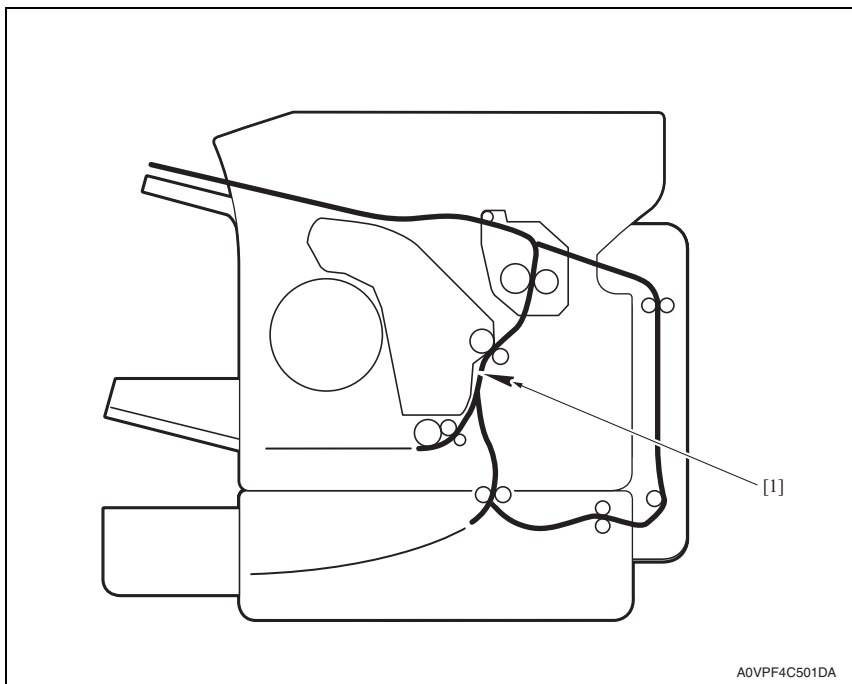
Display	Misfeed location	Misfeed clearing location	Ref. page
TRAY2 JAM OPEN TOP COVER	Tray2 media feed section	Tray 2	<a href="#">P.15</a>

#### 4.1.1 Misfeed display resetting procedure

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

## 4.2 Sensor layout

### 4.2.1 magicolor 1690MF (mounted with the Lower Feeder Unit and Duplex Option)



[1] Registration sensor (PS2)

4.3 Solution

4.3.1 Initial check items

- When a media misfeed occurs, first check the following initial check items.

Check Item	Action
Does the media meet product specifications?	Change the media.
Is media curled, wavy, or damp.	Change the media. Instruct the user in correct paper storage.
Is a foreign object present along the paper path, or is the media path deformed or worn?	Clean or change the media path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

4.3.2 Misfeed at tray 2 media feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 2 media feed section	The media does not unblock the registration sensor (PS2) even after the lapse of a given period of time after the media feed solenoid (SD6) is turned ON.

B. Action

Relevant electrical parts	
Registration sensor (PS2) Media feed solenoid (SD6)	Print control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	—	—
2	PS2 sensor check	PRCB PJ12-6 (ON)	C-3
3	SD6 operation check	PCCB CN3-2 (ON)	B-5
4	Change PRCB.	—	—

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KONICA MINOLTA

**SERVICE MANUAL**

FIELD SERVICE

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# Duplex Option

# 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.

2010/12	2.0		Error correction/Information addition
2008/11	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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# OUTLINE

## 1. Product specifications

### A. Type

Name	Duplex Option
Type	Switchback and circulating duplex unit
Installation	Mounted on the right side door of main unit
Reversing system	Exit roller switchback
Conveyance system	Rubber roller + driven rolls
Document alignment	Center

### B. Paper type

Paper size	A4S/LetterS
Paper type	<ul style="list-style-type: none"> <li>Plain Paper (60 to 90 g/m<sup>2</sup> / 16 to 24 lb)</li> </ul>

### C. Machine specifications

Power requirements	DC 24 V $\pm$ 10 % (supplied from the main unit)
	DC 5 V $\pm$ 5 % (supplied from the main unit)
Max. power consumption	37 W
Dimensions	357 (W) $\times$ 129.3 (D) $\times$ 315.5 (H) mm 14.1 (W) $\times$ 5.1 (D) $\times$ 12.5 (H) inch
Weight	Approx. 2.5 kg (5.6 lb)

### D. Operating environment

Temperature	10 to 35 °C / 50 to 95 °F (with a fluctuation of 10 °C / 18 °F or less per hour)
Humidity	15 % to 85 % (with a fluctuation of 20 %/h)

### NOTE

- These specifications are subject to change without notice.

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# MAINTENANCE

## 2. Periodic check

### 2.1 Maintenance procedure (Periodic parts check)

- Periodically replaced parts are not employed.

### 3. Other

#### 3.1 Disassembly/adjustment prohibited items

##### 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.

## 3.2 Disassembly/Assembly list (Other parts)

### 3.2.1 Disassembly/assembly parts list

No	Section	Part name	Ref. page
1	-	Duplex Option	P.5
2	Exterior parts	Right cover	P.6
3		Left cover	P.6
4	Board and etc.	AD drive board (ADDB)	P.7
5	Others	Cooling fan motor (FM3)	P.8
6		Transport motor (M6)	P.10
7		Switchback motor (M5)	P.10
8		Registration solenoid (SD7)	P.10

### 3.2.2 Cleaning parts list

No	Section	Part name	Ref. page
1	Transport section	Transport rollers	P.11
2	Media feed section	Media feed rollers *1	P.11

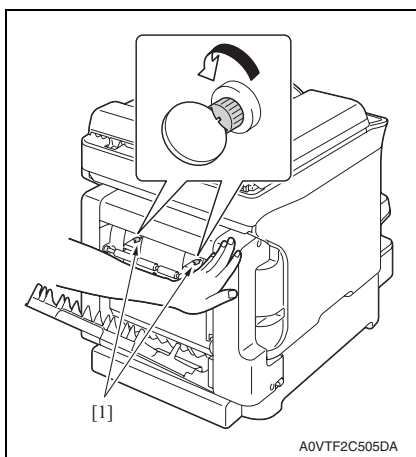
\*1: Only when the duplex option attachment is installed.

## 3.3 Disassembly/Assembly procedure

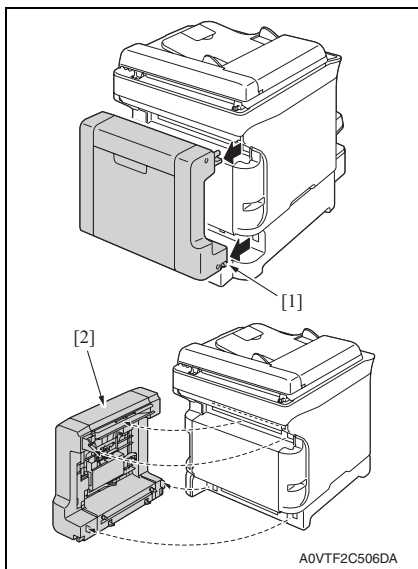
### 3.3.1 Duplex Option

#### ⚠ NOTE

- Whenever removing or reinstalling the Duplex Option, be sure first to unplug the power cord of the printer from the power outlet.

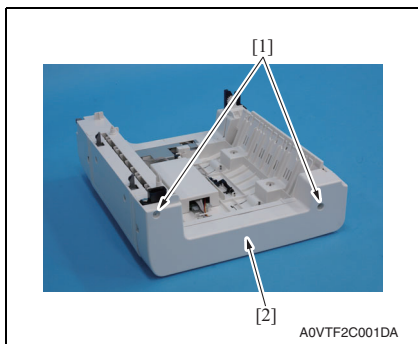


1. Open the Duplex Option door.
2. Turn two locking screws [1] to unlock the Duplex Option.



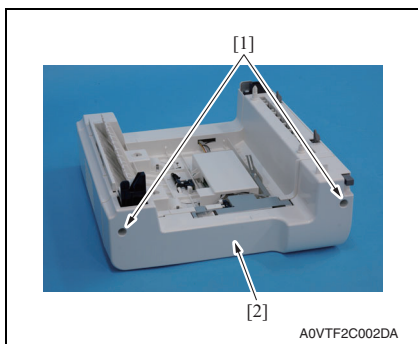
3. Remove the duplex print unit [2] pushing the lever [1].

### 3.3.2 Right cover



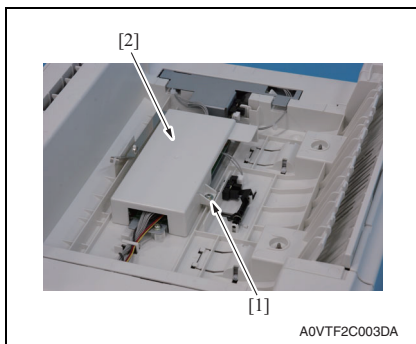
1. Remove two screws [1], and remove the right cover [2].

### 3.3.3 Left cover

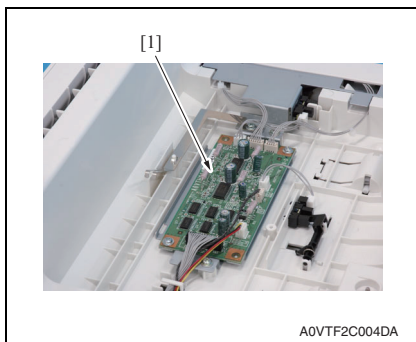


1. Remove two screws [1], and remove the left cover [2].

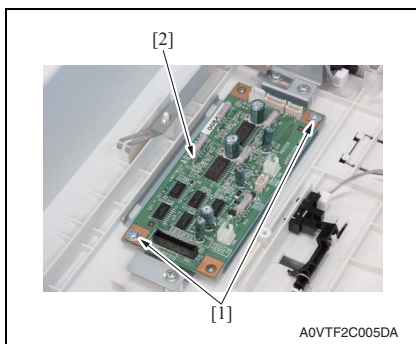
### 3.3.4 AD drive board (ADDB)



1. Remove the screw [1], and the AD drive board cover [2].



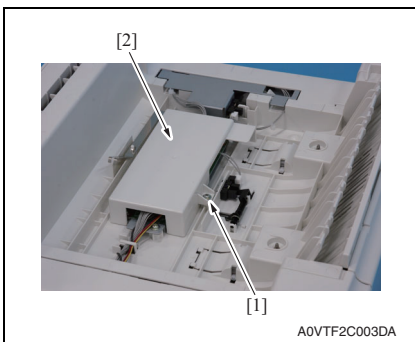
2. Disconnect all connectors from the AD drive board [1].



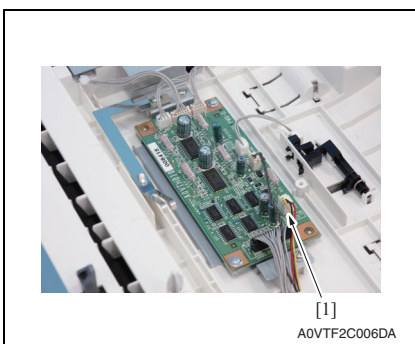
3. Remove two screws [1], and the AD drive board [2].

### 3.3.5 Cooling fan motor (FM3)

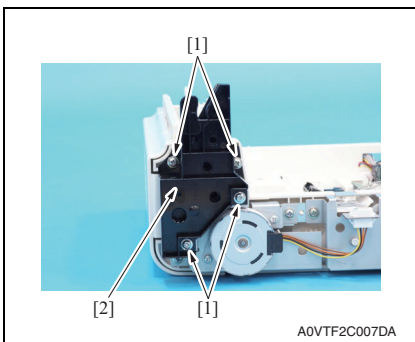
1. Remove the right cover.  
[See P.6](#)
2. Remove the left cover.  
[See P.6](#)



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



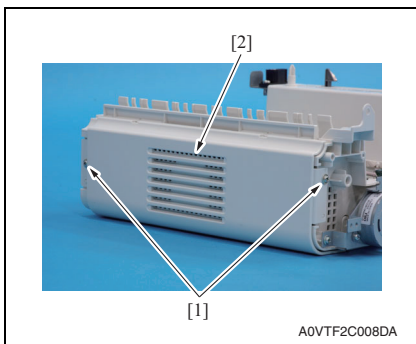
4. Disconnect the connector (CN6) [1].



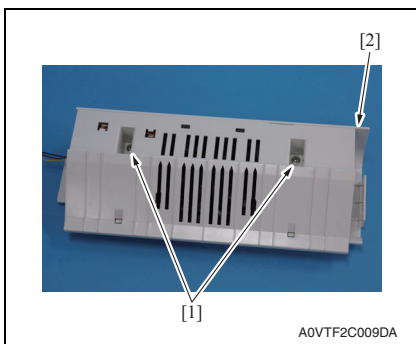
5. Remove four screws [1], remove the gear box [2].

#### NOTE

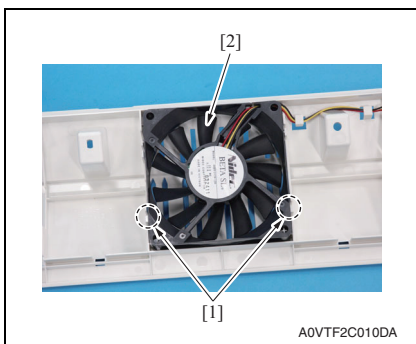
- Pay close attention to gear as it is come off when removing the gear box.



6. Remove two screws [1], and remove the cooling fan motor assy [2].



7. Remove two screws [1], and remove cooling fan motor cover [2].

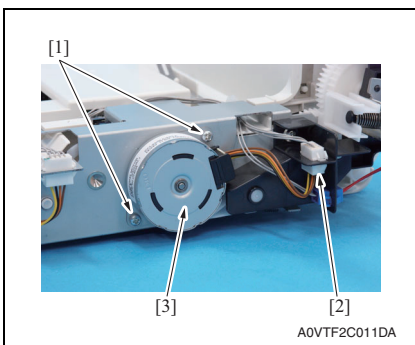


8. Unhook two tabs [1], and remove the cooling fan motor [2].

### 3.3.6 Transport motor (M6)

1. Remove the right cover.

See P.6

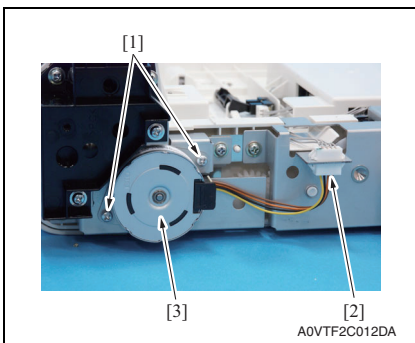


2. Remove two screws [1] and disconnect the connector [2], and remove the transport motor [3].

### 3.3.7 Switchback motor (M5)

1. Remove the right cover.

See P.6

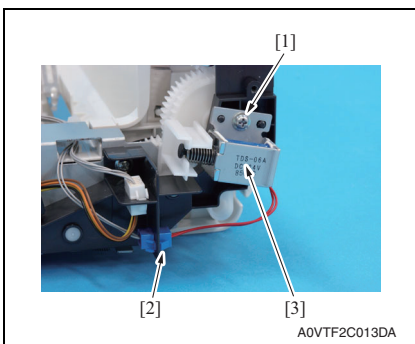


2. Remove two screws [1] and disconnect the connector [2], and remove the switchback motor [3].

### 3.3.8 Registration solenoid (SD7)

1. Remove the right cover.

See P.6



2. Remove the screw [1] and disconnect the connector [2], and remove the registration solenoid [3].

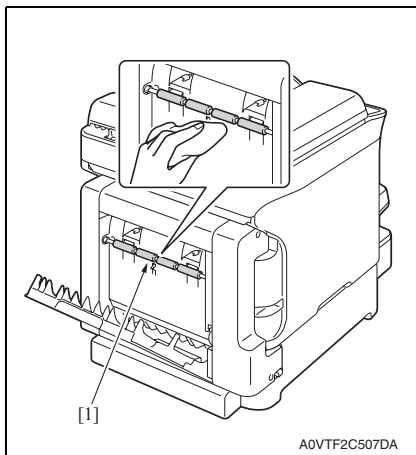
## 3.4 Cleaning procedure

### NOTE

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

### 3.4.1 Transport roller

1. Open the duplex door.

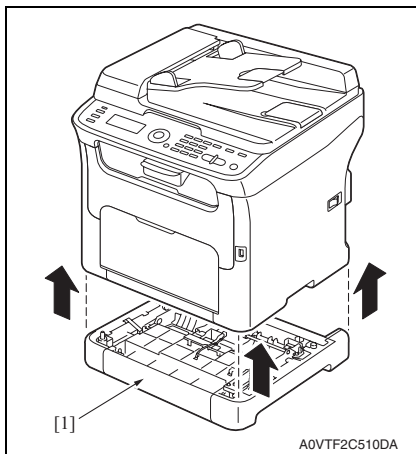


2. Using a cleaning pad dampened with alcohol, wipe the transport roller [1] clean of dirt.

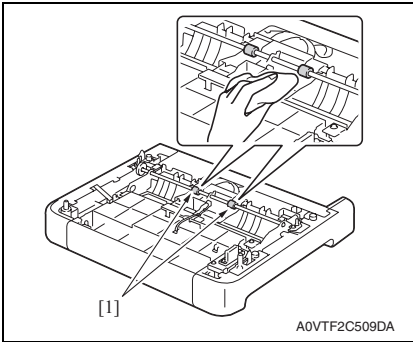
### 3.4.2 Media feed roller

### NOTE

- Only when the duplex option attachment is installed.



1. Lift the printer main body and then remove the Duplex option attachment [1] from the printer.



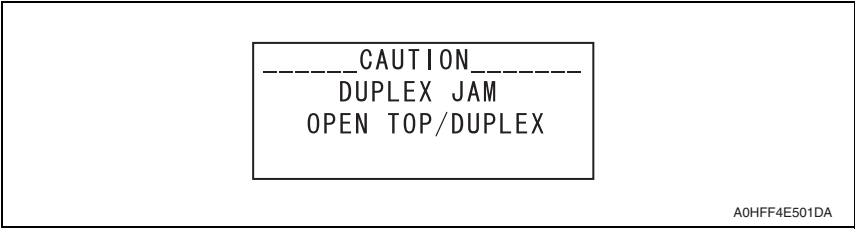
2. Using a cleaning pad dampened with alcohol, wipe the media feed rollers [1] clean of dirt.

# TROUBLESHOOTING

## 4. Jam display

### 4.1 List of display messages

- When a paper misfeed occurs a message is displayed on the control panel.



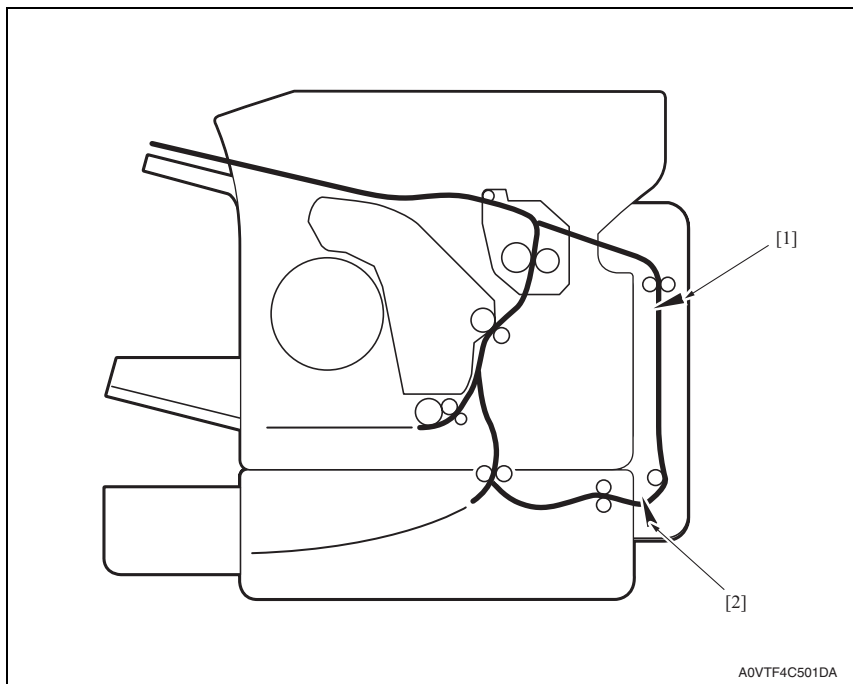
Display	Misfeed location	Misfeed clearing location	Ref. page
DUPLEX JAM OPEN TOP/DUPLEX	Duplex Option reverse drive/storage section	Duplex Option door	<a href="#">P.15</a>
DUPLEX JAM OPEN DUPLEX COVER	Duplex Option media feed section		<a href="#">P.16</a>

### 4.2 Misfeed display resetting procedure

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

### 4.3 Sensor layout

#### 4.3.1 magicolor 1690MF (mounted with the Lower Feeder Unit and Duplex Option)



[1] Transport sensor/1 (PS15)

[2] Loop sensor (PS13)

4.4 Solution

4.4.1 Initial check items

- When a media misfeed occurs, first check the following initial check items.

Check Item	Action
Does the media meet product specifications?	Change the media.
Is media curled, wavy, or damp.	Change the media. Instruct the user in correct media storage.
Is a foreign object present along the media path, or is the media path deformed or worn?	Clean or change the media path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the media?	Set as necessary.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

4.4.2 Misfeed at Duplex Option reverse drive/storage section

A. Detection timing

Type	Description
Detection of misfeed at Duplex Option reverse drive/storage section	The transport sensor/1 (PS15) is not unblocked even after the lapse of a predetermined period of time after the switchback motor (M5) has been energized for reverse drive.

B. Action



Relevant electrical parts	
Transport sensor/1 (PS15) Transport motor (M1) Switchback motor (M5)	Transport motor (M6) AD drive board (ADDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items.	—	—
2	Check the PS15 sensor.	ADDB CN4-3 (ON)	G-5
3	Check M6 for correct operation.	ADDB CN7-1 to 4	G-3
4	Check M5 for correct operation.	ADDB CN3-1 to 4	G-3
5	Change ADDB.	—	—
6	Change PRCB.	—	—



4.4.3 Misfeed at Duplex Option media feed section

A. Detection timing

Type	Description
Detection of misfeed at Duplex Option paper feed section	The paper loop sensor (PS13) is not unblocked even after the lapse of a predetermined period of time after a duplex paper feed sequence has been started.
	The loop sensor (PS13) is not blocked even after the lapse of a predetermined period of time after a duplex paper feed sequence has been started.
	The transport sensor/1 (PS15) is not blocked even after the lapse of a predetermined period of time after a duplex paper feed sequence has been started.

B. Action

Relevant electrical parts	
Loop sensor (PS13) Transport sensor/1 (PS15) Transport motor (M6)	AD drive board (ADDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items.	—	—
2	Check the PS13 sensor.	ADDB CN2-3 (ON)	B-4 to 5
3	Check the PS15 sensor.	ADDB CN4-3 (ON)	G-5
4	Check M6 for correct operation.	ADDB CN7-1 to 4	G-3
5	Change ADDB.	—	—
6	Change PRCB.	—	—

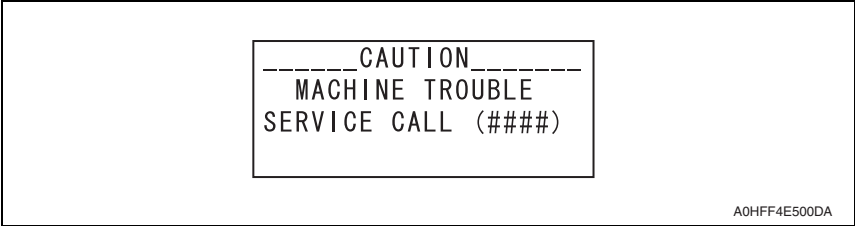
5. Error codes

5.1 Trouble code

- When a malfunction occurs, the printer shows the corresponding trouble status by means of the Error indicator on the control panel or LCD display.

5.1.1 Indication of the LCD display

- The printer’s CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding trouble code and maintenance call mark on the control panel.



5.1.2 Trouble code list

Code	Item	Detection Timing
004A	Duplex unit cooling fan motor malfunction	<ul style="list-style-type: none"><li>The fan motor lock signal remains HIGH for a predetermined consecutive period of time while the cooling fan motor remains energized.</li></ul>

5.2 Solution

5.2.1 004A: Duplex unit cooling fan motor malfunction

Relevant electrical parts	
Cooling fan motor (FM3)	AD drive board (ADDB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM3 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	Check the ADDB connector for proper connection and correct as necessary.	—	—
4	FM3 operation check.	ADDB CN6-1 (REM) ADDB CN6-3 (LOCK)	B-5
5	Change ADDB.	—	—
6	Change PRCB.	—	—



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