Model R-C5/5.5 Machine Code: D017/D018/D019/D020/D084/D085 Field Service Manual

Safety, Conventions, Trademarks

Safety

Prevention of Physical Injury

- 1. Before disassembling or assembling parts of the machine and peripherals, make sure that the machine and peripheral power cords are unplugged.
- 2. The plug should be near the machine and easily accessible.
- 3. Note that some components of the machine and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
- 4. If any adjustment or operation check has to be made with exterior covers off or open while the main switch is turned on, keep hands away from electrified or mechanically driven components.
- 5. If the [Start] key is pressed before the machine completes the warm-up period (the [Start] key starts blinking red and green), keep hands away from the mechanical and the electrical components as the machine starts making copies as soon as the warm-up period is completed.
- 6. The inside and the metal parts of the fusing unit become extremely hot while the machine is operating. Be careful to avoid touching those components with your bare hands.
- 7. To prevent a fire or explosion, keep the machine away from flammable liquids, gases, and aerosols.

Health Safety Conditions

- 1. Never operate the machine without the ozone filters installed.
- 2. Always replace the ozone filters with the specified types at the proper intervals.
- Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

Observance of Electrical Safety Standards

1. The machine and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.

Safety and Ecological Notes for Disposal

1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.

- 2. Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)
- 3. Dispose of replaced parts in accordance with local regulations.
- 4. When keeping used lithium batteries in order to dispose of them later, do not put more than 100 batteries per sealed box. Storing larger numbers or not sealing them apart may lead to chemical reactions and heat build-up.

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 The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard used batteries in accordance with the manufacturer's instructions.

Handling Toner

- Work carefully when removing paper jams or replacing toner bottles or cartridges to avoid spilling toner on clothing or the hands.
- If toner is inhaled, immediately gargle with large amounts of cold water and move to a well ventilated location. If there are signs of irritation or other problems, seek medical attention.
- If toner gets on the skin, wash immediately with soap and cold running water.
- If toner gets into the eyes, flush the eyes with cold running water or eye wash. If there are signs of irritation or other problems, seek medical attention.
- If toner is swallowed, drink a large amount of cold water to dilute the ingested toner. If there are signs of any problem, seek medical attention.
- If toner spills on clothing, wash the affected area immediately with soap and cold water. Never use hot water! Hot water can cause toner to set and permanently stain fabric.
- Always store toner and developer supplies such as toner and developer packages, cartridges, and bottles (including used toner and empty bottles and cartridges) out of the reach of children.
- Always store fresh toner supplies or empty bottles or cartridges in a cool, dry location that is not
 exposed to direct sunlight.

Laser Safety

The Center for Devices and Radiological Health (CDRH) prohibits the repair of laser-based optical units in the field. The optical housing unit can only be repaired in a factory or at a location with the requisite equipment. The laser subsystem is replaceable in the field by a qualified Customer Engineer. The laser chassis is not repairable in the field. Customer engineers are therefore directed to return all chassis and laser subsystems to the factory or service depot when replacement of the optical subsystem is required.

WARNING

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

WARNING FOR LASER UNIT

WARNING:

Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes.

CAUTION MARKING:



Safety Precautions for This Machine

Before moving the mainframe:

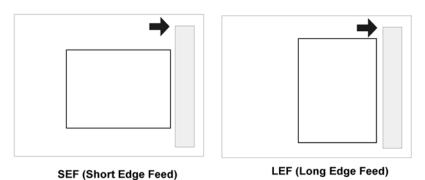
- Disconnect all peripheral units (finisher, LCT, etc.) from the mainframe.
- Pull the slide handles out of the mainframe and use them to lift the mainframe.

Conventions and Trademarks

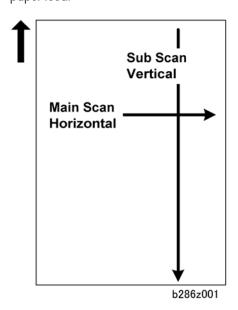
Conventions

Symbol	What it means
СТ	Core Tech Manual
F	Screw
	Connector
C	E-ring

Symbol	What it means
⟨T)	C-ring
Ş	Harness clamp
FFC	Flat Film Connector



The notations "SEF" and "LEF" describe the direction of paper feed. The arrows indicate the direction of paper feed.



In this manual "Horizontal" means the "Main Scan Direction" and "Vertical" means the "Sub Scan Direction" relative to the paper feed direction.

Warnings, Cautions, Notes

In this manual, the following important symbols and notations are used.

⚠ WARNING

• A Warning indicates a potentially hazardous situation. Failure to obey a Warning could result in death or serious injury.

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A Caution indicates a potentially hazardous situation. Failure to obey a Caution could result in minor
or moderate injury or damage to the machine or other property.

• Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine

U Note

• This information provides tips and advice about how to best service the machine.

Trademarks

- Microsoft®, Windows®, and MS-DOS® are registered trademarks of Microsoft Corporation in the United States and /or other countries.
- PostScript[®] is a registered trademark of Adobe Systems, Incorporated.
- PCL® is a registered trademark of Hewlett-Packard Company.
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- PowerPC® is a registered trademark of International Business Machines Corporation.
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TABLE OF CONTENTS

Safety, Conventions, Trademarks	1
Safety	1
Laser Safety	2
Safety Precautions for This Machine	3
Conventions and Trademarks	3
Warnings, Cautions, Notes	5
1. Product Information	
Specifications	13
Machine Configuration	14
System Configuration and Options	14
Guidance for Those Who are Familiar with Predecessor Products	17
Overview	18
Mechanical Components	18
Paper Path	19
Drive Layout	20
2. Installation	
Installation Requirements	23
Environment	23
Machine Level	23
Minimum Space Requirements	23
Power Requirements	25
Copier Installation	26
Power Sockets for Peripherals	26
Installation Flow Chart	26
Accessory Check	27
Installation Procedure	29
Transporting the Machine	38
Paper Feed Unit (D331)	39
Accessory Check	39
Installation Procedure	39
LCT (B391)	42
Accessory Check	42
Installation Procedure	42

ARDF (D366)	46
Component Check	46
Installation Procedure	46
Interchange Unit (D371)	50
Component Check	50
Installation Procedure	50
1-Bin Tray Unit (D367)	52
Component Check	52
Installation Procedure	53
Shift Tray (D385)	57
Component Check	57
Installation Procedure	57
Bypass Feed Unit (D370)	60
Components Check	60
Installation Procedure	60
Duplex Unit (D369)	63
Accessory Check	63
Installation Procedure	64
Bridge Unit (D368)	67
Component List	67
Installation Procedure	68
1000-Sheet Finisher (B408)	70
Accessory Check	70
Installation procedure	71
1000-Sheet Booklet Finisher (B793)	74
Accessory Check	74
Installation Procedure	75
500-Sheet Finisher (D372)	79
Accessory Check	79
Installation Procedure	79
Platen Cover (B406)	82
Key Counter (B452)	83
Installation Procedure	83

Heaters	86
Anti-Condensation Heater (Scanner Unit)	86
Tray Heater (Copier)	87
Tray Heater (Optional Paper Tray Unit)	89
Tray Heater (Optional LCT)	93
Copy Data Security Unit (B829)	97
Accessories	97
Installation Procedure	97
Hard Disk (D362)	100
Accessory Check	100
Installation	100
Mechanical Counter	102
Accessory Check	102
Installation	102
Key Counter Interface Unit	104
Installation Procedure	104
Controller Options	106
Controller Board Slots	106
IEEE 1284 Interface board (B679)	109
IEEE 802.11a/g (D377)	110
Bluetooth Unit (B826)	114
Gigabit Ethernet (G831)	115
File Format Converter Type E (D377)	116
PostScript 3 Unit (D383)	117
HDD Encryption Unit	118
Data Overwrite Security Unit (D362)	125
Browser Unit Type D (D377)	129
VM Card Type F (D3 <i>77</i>)	
IPDS Unit	132
Printer and P/S Options (only for D017/D019)	135
3. Preventive Maintenance	
PM Tables	
Main Motor Drive Gear	

4. Replacement and Adjustment

Special Tools and Lubricants	147
Special Tools	147
Lubricants	147
General Cautions	148
PCU (Photoconductor Unit)	148
Transfer Roller Unit	148
Scanner Unit	149
Laser Unit	149
Fusing Unit	149
Paper Feed	149
Others	149
Scanner Unit	151
Exposure Glass	151
Original Length/Width Sensors	152
Exposure Lamp	153
Scanner Motor	156
Sensor Board Unit (SBU)	156
Exposure Lamp Stabilizer	159
Front Scanner Wire	160
Rear Scanner Wire	163
Touch Panel Position Adjustment	164
Laser Unit	166
Caution Decal Locations	166
Laser Unit	166
Polygon Mirror Motor	169
LD Unit	169
Laser Synchronization Detector	170
Photoconductor Unit (PCU)	172
PCU Removal	172
Pick-off Pawls	173
OPC Drum	
Charge Roller, Cleaning Roller	175

Cleaning Blade	175
Developer	176
After Replacement of PCU Components	181
Transfer Unit	183
Transfer Roller Unit	183
Image Density Sensor	184
Fusing/Exit	185
Fusing Unit	185
Thermistors	185
Thermostats	186
Hot Roller and Fusing Lamps	188
Pressure Roller/Cleaning Roller	191
Paper Exit Sensor/Paper Overflow Sensor	192
Paper Feed	193
Feed Roller: Tray 1	193
Feed Roller: Tray 2	194
Friction Pad	194
Paper End Sensor	195
Paper Tray Lift Motors	195
Registration Clutch	197
Paper Feed Clutches	197
Relay Clutches	199
Upper/Lower Paper Size Sensors	200
Registration Sensor	200
Upper, Lower Relay Sensors	204
Dust Collection Bin	205
PCBs and Other Items	206
Controller Board	206
NVRAM	208
BCU Board	210
Power Pack	211
Main Motor	211
PSII	212

SIO	213
SIU	215
IPU	215
HDD	217
Copy Adjustments: Printing/Scanning	219
Printing	219
Scanning	223
ADF Image Adjustment	225
Touch Screen Calibration	226
5. System Maintenance	
Service Program Mode	229
SP Tables	229
Service Mode Lock/Unlock	229
Service Program Mode Operation	230
Commonly Used SP Codes and Features	232
Service Program Mode Tables	240
Firmware Update	241
NVRAM Data Upload/Download	243
Uploading NVRAM Data (SP5-824)	243
Downloading NVRAM Data (SP5-825)	243
User Tools	244
UP Mode Initial Screen: User Tools/Counter Display	244
System Settings	244
Copier/Document Server Features	245
Printer, Facsimile, Scanner Settings	245
Inquiry	245
Counter	246
LED and DIP Switches.	247
LEDs.	247
DIP Switches	247
Using the Debug Log	249
Switching On and Setting Up "Save Debug Log"	249
Retrieving the Debug Log from the HDD	253

Recording Errors Manually	
Debug Log Codes	
6. Troubleshooting	
Service Call Conditions.	
Self-Diagnostic Mode	256
Self-Diagnostic Mode at Power On	256
Detailed Self-Diagnostic Mode	258
Paper Feed Troubleshooting	260
Skewed Image	261
Image Problems	262
Skewed, Trapezoid and Parallelogram Images	262
Checking Images with the Trimming Pattern	265
Correcting the Images	266
Electrical Component Defects	272
Sensors	272
Switches	277
Blown Fuse Conditions.	279
7. Energy Saving	
Energy Save	281
Energy Saver Modes	281
Energy Save Effectiveness	282
Paper Save	285
Effectiveness of Duplex/Combine Function	285

1. Product Information

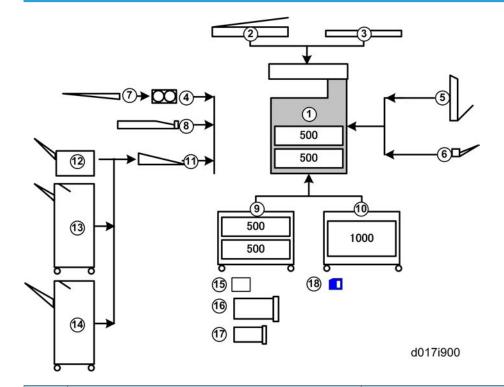
Specifications

See "Appendices" for the following information:

- General Specifications
- Optional Equipment

1

System Configuration and Options



No.	Item	Comments
1	Main Machine D017/D018/D019/D020/D084/ D085	
2	ARDF (D366)	
3	Platen Cover (B406)	
4	Interchange Unit (D371)	Required for Item 5, 7
5	Duplex Unit (D369)	
6	Bypass Tray (D370)	
7	1-Bin Tray (D367)	Requires Item 4
8	Internal Shift Tray (D385)	

Note 1:

The following interface boards are available for installation.

• There is only one board slot on the back of the machine. Only one of these options can be installed.

These options can be installed at any time.

Interface Board
Bluetooth Interface Unit Type 3245 (B826)
File Format Converter Type E (D377)
IEEE1284 Interface Board Type A (B679)
IEEE802.11a/g Interface Unit Type J (D377)
-or-
IEEE802.11g Interface Unit Type K (D377)
Gigabit Ethernet Type 7300 (G381)

Note 2:

The following options are provided on SD cards.

- Two SD card slots are available. If more than two options need to be installed, the applications can be moved to one SD card with SP5873-1.
- Due to copyright restrictions, the PostScript Unit (D383) cannot be moved to another SD card.
 However, other applications can be moved onto the PostScript 3 SD card. (For more, see the Printer/Scanner Option manual.)
- VM Card Type F is standard for D084/D085 models.

These options can be installed at any time.

SD Cards	
Browser Unit Type D (D377)	
Data Overwrite Security Unit Type I (D362)	
HDD Encryption Option (D377)	
PostScript3 Unit Type 3350 (D383)	
IPDS Unit Type 3350 (D383)	
VM Card Type F (D377)*1 only for D017/D018/D019/D020 models	

^{* 1:} VM card is installed in the D084/D085 models by default. The VM Card Type F which is supplied as an option is different from the VM card in the D084/D085 models.

- VM Card Type F: No "App 2 Me" application installed
- VM card in the D084/D085 models: "App 2 Me" application installed

Guidance for Those Who are Familiar with Predecessor Products

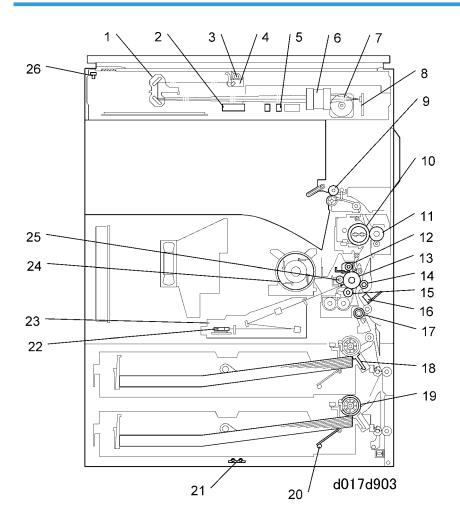
The D084/D085 series are successor models to the D017/D018/D019/D020 series. If you have experience with the predecessor products, the following information will be of help when you read this manual.

Different Points from Predecessor Products

	D084/D085	D017/D018/D019/D020
Model Line Up	2 models	2 models
	28 cpm/ 33 cpm	25 cpm/ 33 cpm
VM Card	Standard	Option
Scanner	Color only	Color and B/W

Overview

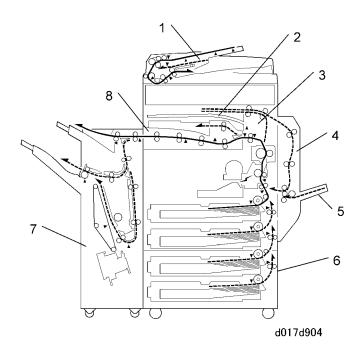
Mechanical Components



- 1. 2nd scanner
- 2. Original width sensor
- 3. Exposure lamp
- 4. 1st scanner
- 5. Original length sensor
- 6. Lens
- 7. Scanner motor
- 8. SBU board
- 9. Exit roller
- 10. Fusing hot roller
- 11. Fusing pressure roller
- 12. Cleaning unit
- 13. OPC drum

- 14. Transfer roller
- 15. Development roller
- 16. ID sensor
- 17. Registration roller
- 18. Friction pad
- 19. Paper feed roller
- 20. Bottom plate
- 21. Tray heater
- 22. Polygon mirror motor
- 23. Laser unit
- 24. Toner supply bottle holder
- 25. Drum charge roller
- 26. Scanner home position sensor

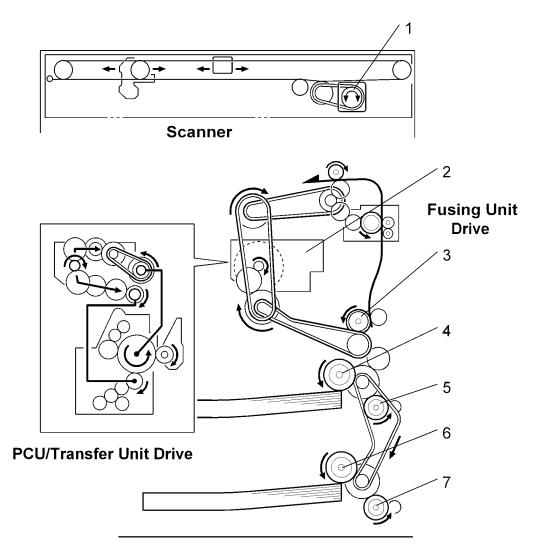
Paper Path



- 1. Optional ADF
- 2. Optional 1-bin Tray

- 3. Optional Interchange Unit
- 4. Optional Duplex Unit
- 5. Optional By-pass Feed Tray
- 6. Optional Paper Tray Unit
- 7. Optional 1000-sheet Finisher
- 8. Optional Bridge Unit

Drive Layout



1. Scanner Drive Motor

- 3. Registration Clutch
- 4. Upper Paper Feed Clutch
- 5. Upper Transport Clutch
- 6. Lower Paper Feed Clutch
- 7. Lower Transport Clutch

2

2. Installation

Installation Requirements

Environment

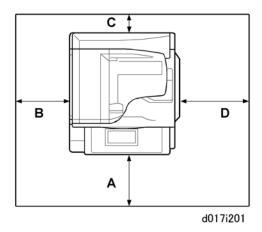
- 1. Temperature Range: 10 °C to 32 °C (50 °F to 89.6 °F)
- 2. Humidity Range: 15% to 80% RH
- 3. Ambient Illumination: Less than 1,500 lux (do not expose to direct sunlight.)
- 4. Ventilation: Room air should turn over at least 30 m³/hr/person
- 5. Ambient Dust: Less than 0.10 mg/m³
- 6. Avoid an area which is exposed to sudden temperature changes. This includes:
 - Areas directly exposed to cool air from an air conditioner.
 - Areas directly exposed to heat from a heater.
- 7. Do not place the machine in an area where it will be exposed to corrosive gases.
- 8. Do not install the machine at any location over 2,000 m (6,500 ft.) above sea level.
- 9. Place the copier on a strong and level base. (Inclination on any side should be no more than 5 mm.)
- 10. Do not place the machine where it may be subjected to strong vibrations.

Machine Level

Front to back: Within 5 mm (0.2") of level Right to left: Within 5 mm (0.2") of level

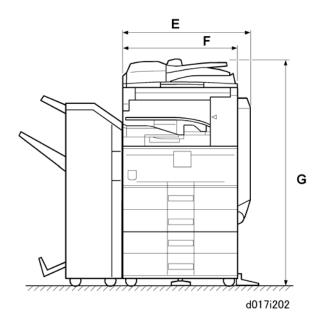
Minimum Space Requirements

Place the copier near the power source, and provide clearance as shown:



A: In Front: Over 750 mm (29.6"), B: Left: Over 100 mm (0.4")

C: To Rear: Over 100 mm (0.4"), D: Right: Over 100 mm (0.4")



E: 640 mm (25.2"), F: 550 mm (21.7"), G: 1137 mm (44.8")



• The 750 mm recommended for the space at the front is only for pulling out the paper tray. If an operator stands at the front of the copier, more space is required.

9

Power Requirements

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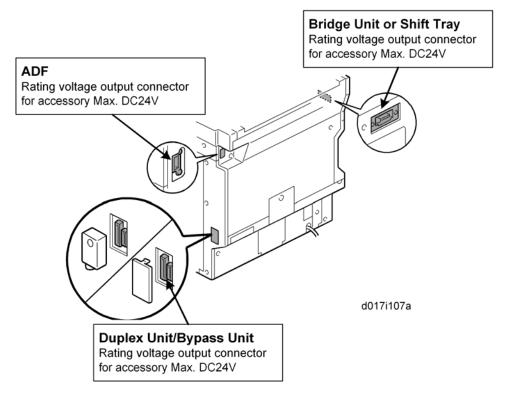
- Make sure that the wall outlet is near the copier and easily accessible.
- Make sure the plug is firmly inserted in the outlet.
- Avoid multi-wiring.
- Be sure to ground the machine.
- 1. Input voltage level
 - 120 V, 60 Hz: More than 12 A
 - 220 V to 240 V, 50 Hz/60 Hz: More than 7 A
 - 110V, 50 Hz/60 Hz: More than 13 A
- 2. Permissible voltage fluctuation: 10 %
- 3. Do not set anything on the power cord.

Copier Installation

Power Sockets for Peripherals



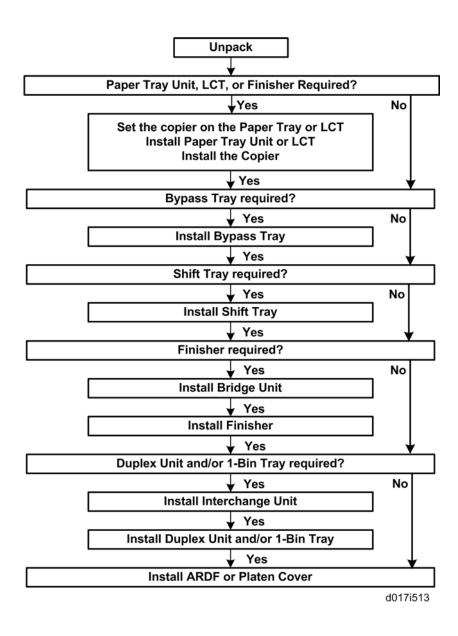
• Rating voltages for peripherals.



Make sure to connect the cables to the correct sockets.

Installation Flow Chart

The following flow chart shows how to install the optional units more efficiently.



Accessory Check

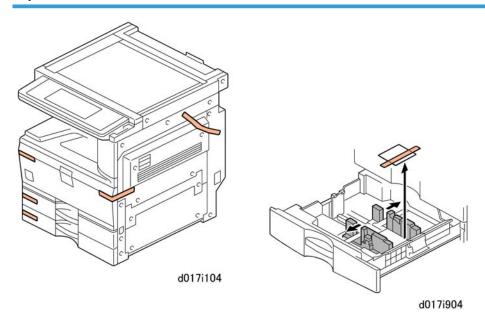
Check the quantity and condition of the accessories in the box against the following list:

No.	Description	D017/D018 D019/D020	D084/D085
1	Paper Tray Decal	1	1

No.	Description	D017/D018 D019/D020	D084/D085
2	Emblem Cover	1	1
3	Emblem	1	1
4	Model Name Decal	1	1
5	End Fence	1	1
6	HDD Caution Decal (-17, -29 only)	1	-
7	Operating Instructions – About This Machine	1	1
8	Operating Instructions – Troubleshooting	1	1
9	Quick Reference Guide - Copy	1	1
10	Quick Reference Guide - Printer	1	1
11	Quick Reference Guide - Scanner	1	1
12	Quick Reference Guide - App 2 Me	-	1
13	CD-ROM Operation Instruction - User	1	1
14	CD-ROM Operation Instruction - Administrator	1	1
15	CD-ROM Operation Instruction - App 2 Me	-	1
16	CD-ROM - SDK	-	1
17	CD-ROM - Printer/Scanner	-	1
18	CD-ROM - Printer	1	-
19	CD-ROM - Scanner	1	-
20	CD-ROM - P2600	1	1
21	CD-ROM - Driver (-19 only)	1	1
22	CD-ROM - Font	1	-
23	Cloth Holder	1	1
24	Cloth - DF Exposure Glass	1	1
25	Ferrite Core	1	1

Installation Procedure

Tapes and Retainers



ACAUTION

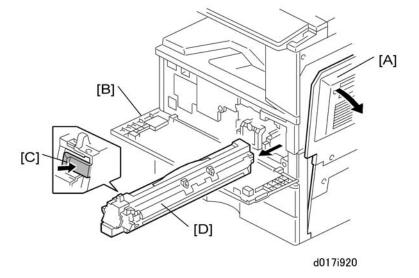
• Unplug the machine power cord before you start the following procedure.

If the optional paper tray or the optional LCT is going to be installed now, put the copier on the paper tray unit or the LCT first, then install these options, then install the copier.

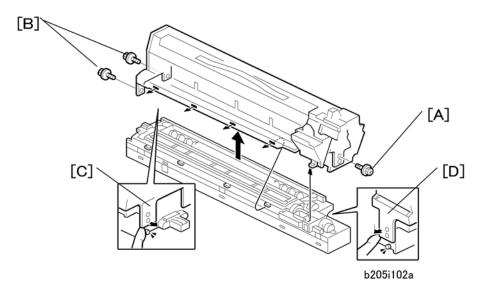


- Keep the shipping retainers after installing the machine. They will be reused if the machine is moved to another location in the future.
- 1. Remove the tapes and the shipping retainer on the exterior of the copier.
- 2. Install the end fence.

Developer



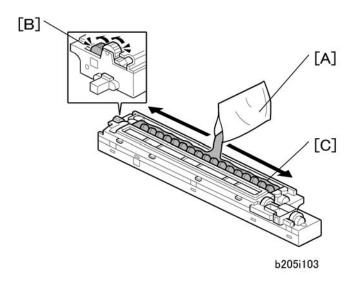
- 1. Spread the vinyl sheet provided with the developer kit on a flat surface.
- 2. Open the right door [A].
- 3. Open the front door [B].
- 4. Push the latch [C] and remove the PCU [D].



- 5. Remove the front screw [A] ($\hat{F} \times 1$)
- 6. Remove the rear screws [B] (\$\hat{B}^2 \times 2)
- 7. Release the rear tab [C] then front tab [D], then separate the top and bottom.



• Be sure to release the rear tab first and the front tab second.

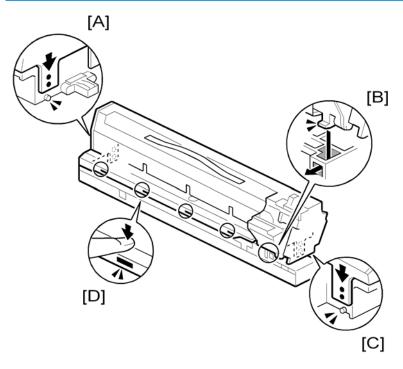


- 8. Open the developer pack [A].
- 9. While turning the black gear [B], slowly move the pack left and right and pour half of the developer over the auger [C].
- 10. Continue to turn the black gear until the developer is level.
- 11. While continuing to turn the black gear, slowly move the pack left and right and pour the remaining half of the developer over the auger until the developer is level.



- Be careful. Do not spill developer on the gears and sponges.
- If you accidentally spill developer on the gears or sponges, remove it with a magnet or the tip of a magnetized screwdriver.

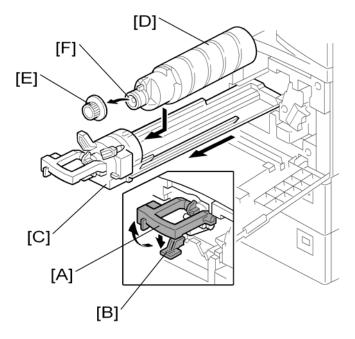
Re-assembly



- 1. Make sure that all of the holes and tabs are engaged at [A], [B], [C], and [D]. Then push down to lock the tabs on the front and rear end of the PCU.
- 2. Make sure that the holes for the screws on the front and rear end of the PCU are aligned correctly. If the holes are not aligned correctly, make sure that the tabs at the front, rear, and left side of the PCU are engaged correctly.

- Reattach the rear screws ($\mathscr{F} \times 2$) first, then reattach the front screw ($\mathscr{F} \times 1$).
- Do not push down on the top of the PCU when you attach the rear and front screws

Toner Bottle



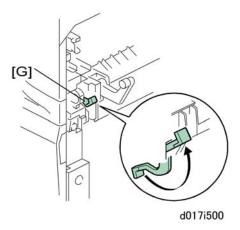
- 1. Raise the toner bottle holder lever [A], push lever [B] down, and pull the toner bottle holder [C] out.
- 2. Shake the toner bottle [D].



- Do not remove the toner bottle cap [E] until after shaking.
- 3. Unscrew the bottle cap [E] and insert the bottle into the holder.

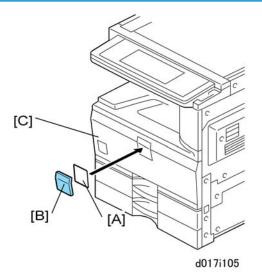


- Do not touch the inner bottle cap [F].
- 4. Reposition the holder and press down the holder lever to secure the bottle.
- 5. Open the right cover.



6. Rotate the green fusing pressure lever [G] to the up position.

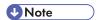
Emblem, Decals



1. Attach the emblem [A] and panel [B] to the front door [C].

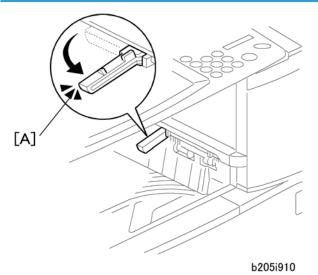


- Push the panel in until the emblem and panel move into their positions. You will hear a click.
- 2. Adjust the side guides and end guide to match the paper size.

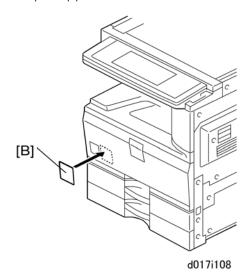


 To move the side guides, first pull out the tray fully, then push down the green lock at the rear of the tray.

Completion



- 1. If the optional bridge unit will not be installed, swing the sensor feeler [A] out.
- 2. Install the optional ARDF or the optional platen cover (see p.46 "ARDF (D366)" or p.82 "Platen Cover (B406)").



3. If the HDD will be installed for a D017-17, -29 or D019-17, -29 model, attach the HDD caution decal [B] to the front cover.

SP Settings

1. Connect the copier and turn the machine on.

- 2. Go into the SP mode and do SP2801 (Developer Initialization).
- 3. Do SP1912 and SP1913 to set automatic paper size selection for the upper and lower tray.

1912	1: Tray: Auto Paper Size Detection	Upper Tray
1913	2: Tray: Auto Paper Size Detection	Lower Tray
1	Size 1: B5/Exe Landscape	
2	Size 2: A5/HLT	[0 to 1 / 0 / 1]
3	A4/LT	0: ISO (A3, A4, A5, etc.)
4	A4/LG	1: USA (DLT, LT, EXE, etc.)
5	A3/LT	

- 4. Enable the NIB and/or USB function.
 - To enable the NIB function, enter the SP mode and set SP5985-001 (On Board NIC) to "1"(Enable).
 - To enable the USB function, enter the SP mode and set SP5985-002 (On Board USB) to "1"(Enable).
- 5. Exit SP mode.
- 6. Do some test copies to make sure that the machine operates correctly.

App 2 Me Setting (D084/D085 only)

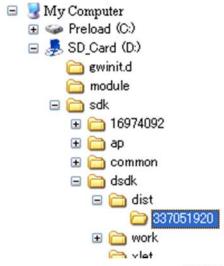
D084/D085 modes have VM Card including "App 2 Me" provider by default. Do the following procedure if a customer want to use the "App 2 Me".

- 1. Press "User Tools" key on the operation panel.
- 2. Touch the "Extended Feature Settings" button twice.
- 3. Touch the "App 2 Me" line in the Startup Setting tab.
- 4. Touch the "Extended Feature Info" tab on the LCD.
- 5. Touch the "App 2 Me" line.
- 6. Set the setting of "Auto Start" to "On".
- 7. Touch the "Exit" button.
- 8. Exit the "User Tools" settings.

Update Procedure for App 2 Me Provider

1. Push the "User/Tools" key.

- 2. If an administrator setting is registered for the machine, step 2 and 3 are required. Otherwise, skip to step 4.
- 3. Push the "Login/Logout" key.
- 4. Login with the administrator user name and password.
- 5. Touch "Extended Feature Settings" twice on the LCD.
- 6. Touch the each application. Then, the status will be changed to "Stop".
- 7. Turn off the machine. And then remove the VM Card.



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- 8. Prepare newer App 2 Me Provider zip file from Firmware Download Center. Unzip the zip file. (The folder name is "337051920".) And then copy the App 2 Me Provider folder in the specified path of VM card. The path is "SD_Card Drive\ sdk\dsdk\dist\337051920" as shown above.
- 9. Turn the SD card label face to the rear of the machine. Then push it slowly into slot 2 until you hear a click.
- 10. Turn on the main power switch.
- 11. Press the "User Tools" key on the operation panel.
- 12. Touch the "Extended Feature Settings" button twice.
- 13. Touch the "Extended Feature Info" tab on LCD.
- 14. Touch the "App2Me" line.
- 15. Set the setting of the "Auto Start" to "On".
- 16. Touch the "Exit" button.
- 17. Exit the "User Tools/Counter" settings.

2

Transporting the Machine

1. Do SP 4806-001 to move the scanner carriage from the home position. This prevents dust from falling into the machine during transportation.

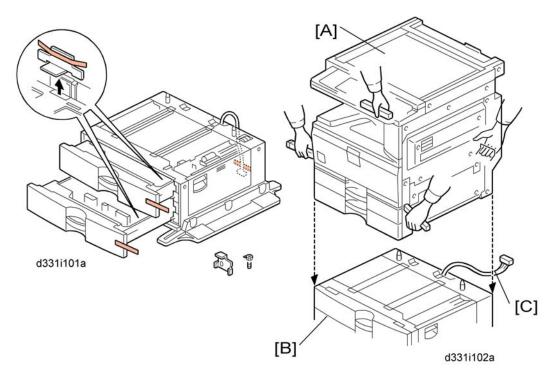
Paper Feed Unit (D331)

Accessory Check

Check the quantity and condition of the accessories against the following list.

No.	Description	Quantity
1	Securing Bracket	2
2	Screw – M4 x 8	4

Installation Procedure



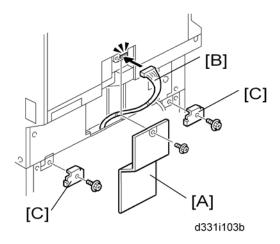
ACAUTION

- Unplug the machine power cord before starting the following procedure.
- The handles of the main machine for lifting must be inserted inside the machine and locked unless these handles are used for the installation or relocation of the main machine.

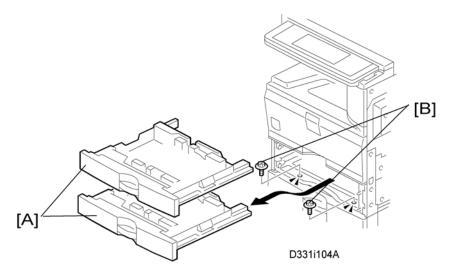
- You need two or more persons to lift the copier. The copier is highly unstable when lifted by one
 person, and may cause human injury or property damage.
- 1. Remove the strips of tape.
- 2. Put the copier [A] on the paper tray unit [B].



• When you install the copier, be careful not to pinch the cable [C].



- 3. Remove the connector cover [A] (x 1: M3x8).
- 4. Connect the cable [B] to the copier, as shown.
- 5. Attach a securing bracket [C] to each side of the paper tray unit, as shown (F x 1: M4x8 each).
- 6. Re-install the connector cover.

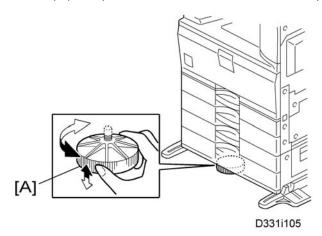


7. Remove the 1st and 2nd paper trays [A]

- 8. Fasten the paper tray unit at [B] (x 2 M4x8).
- 9. Reinstall the all paper trays.
- 10. Attach the appropriate paper tray number decal and paper size decal to the each handle of the trays.



• The paper tray number and size sheet is in the accessory box of the main machine.



- 11. Rotate the adjuster [A] until the machine cannot be pushed across the floor.
- 12. Load paper into the paper trays and set the side fences and bottom fence.

SP Settings

- 1. Connect the copier and turn the machine on.
- 2. Do SP1914 and SP1915 to set automatic paper size detection for the upper and lower tray of the paper tray unit.

1914	3: Tray: Auto Paper Size Detection	Upper Tray
1915	4: Tray: Auto Paper Size Detection	Lower Tray
1	Size 1: B5/Exe Landscape	
2	Size 2: A5/HLT	[0 to 1 / 0 / 1]
3	A4/LT	0: ISO (A3, A4, A5, etc.)
4	A4/LG	1: USA (DLT, LT, EXE, etc.)
5	A3/LT	

- 3. Exit SP mode.
- 4. Do some test copies to make sure that the machine operates correctly.

LCT (B391)

Accessory Check

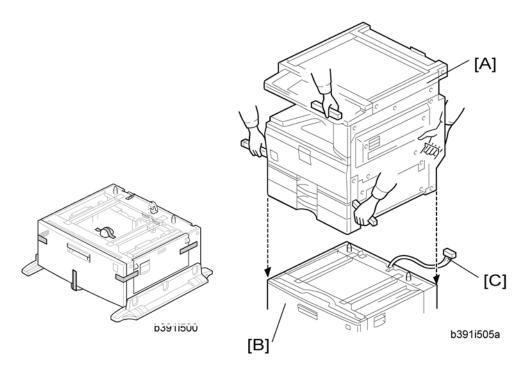
Check the quantity and condition of the accessories against the following list.

No.	Description	Quantity
1	Securing Bracket	2
2	Screw – M4 x 10	4
3	Paper Size Decal	1

Installation Procedure

ACAUTION

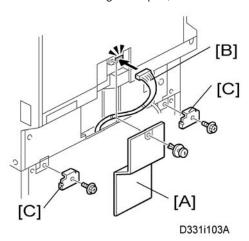
- Unplug the machine power cord before starting the following procedure.
- The handles of the main machine for lifting must be inserted inside the machine and locked, unless these handles are used for the installation or relocation of the main machine.
- You need two or more persons to lift the copier. The copier is highly unstable when lifted by one person, and may cause human injury or property damage.



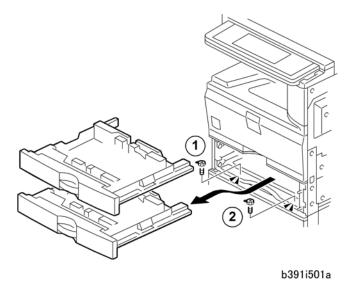
- 1. Remove the strips of tape.
- 2. Set the copier [A] on the LCT [B].



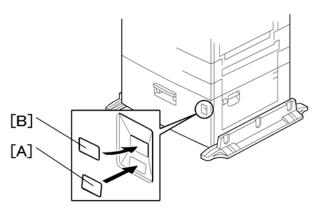
• When installing the copier, Be careful not to pinch the cable [C].



- 3. Remove the connector cover [A] (rivet screw x 1).
- 4. Connect the cable [B] to the copier, as shown.
- 5. Attach a securing bracket [C] to each side of the LCT, as shown (x 1 each).
- 6. Re-install the connector cover.



- 7. Remove the 1st and 2nd paper trays, and then secure the LCT with two screws \bigcirc , \bigcirc .
- 8. Load paper into the LCT.
- 9. Reinstall the 1st and 2nd paper trays.

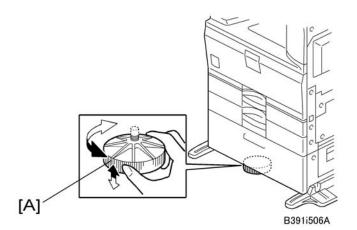


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10. Attach the appropriate paper tray number decal [A] and paper size decal [B] to the LCT tray cover.



• The paper tray number decal is in the accessory box for the main copier.



- 11. Rotate the adjuster [A] until the machine cannot be pushed across the floor.
- 12. Load paper into the paper tray and turn on the main switch.

SP Setting

- 1. Connect the copier and turn the machine on.
- 2. Do SP1914 to set automatic paper size detection for the LCT.

1914	3: Tray: Auto Paper Size Detection	
1	Size 1: B5/Exe Landscape	
2	Size 2: A5/HLT	[0 to 1 / 0 / 1]
3	A4/LT	0: ISO (A3, A4, A5, etc.)
4	A4/LG	1: USA (DLT, LT, EXE, etc.)
5	A3/LT	

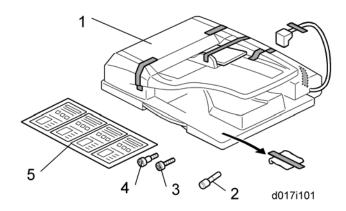
- 3. Exit SP mode.
- 4. Do some test copies to make sure that the machine operates correctly.

ARDF (D366)

Component Check

Check the quantity and condition of the accessories against the following list.

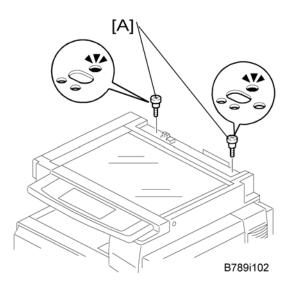
No.	Description	Q'ty
1	ARDF	1
2	Stamp Cartridge	1
3	Knob Screw	2
4	Stud Screw	2
5	Attention Decal-Top Cover	1



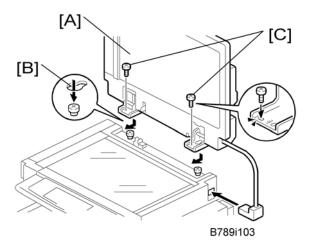
Installation Procedure



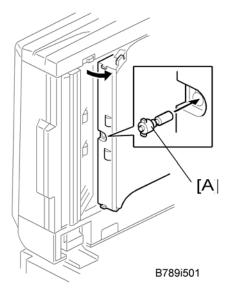
- Unplug the copier power cord before starting the following procedure.
- 1. Remove the all tapes and shipping retainers.



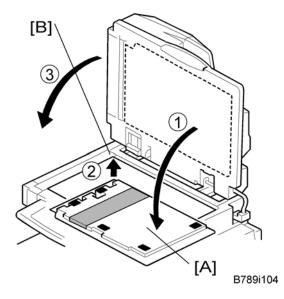
2. Insert the two stud screws [A] on the top of the machine.



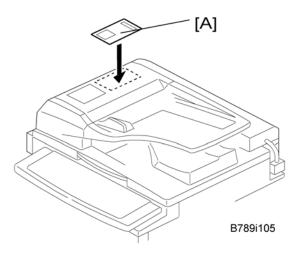
- $3. \ \ Mount the ARDF [A] by aligning the screw keyholes [B] of the ARDF support plate over the stud screws.$
- 4. Slide the ARDF toward the front of the machine.
- 5. Secure the ARDF with the two knob screw [C].



6. Install the stamp cartridge [A] in the ARDF.



- 7. Peel off the platen sheet [A] and place it on the exposure glass.
- 8. Align the rear left corner (of the platen sheet) with the corner [B] on the exposure glass.
- 9. Close the ARDF.
- 10. Open the ARDF and check that the platen sheet is correctly attached.

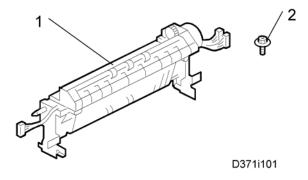


- 11. Attach the decal [A] to the top cover as shown. Choose the language you want.
- 12. Plug in and turn on the main power switch of the machine, and then check the ARDF operation.
- 13. Make a full size copy. Check that the registrations (side-to side and leading edge) and image skew are correct. If they are not, adjust the registrations and image skew, referring to the service manual ("Copy Adjustments" in the "Replacements and Adjustments").

Component Check

Check the quantity and condition of the components against the following list.

No.	Description	Quantity
1	Interchange Unit	1
2	Tapping Screw M3 x 6	2



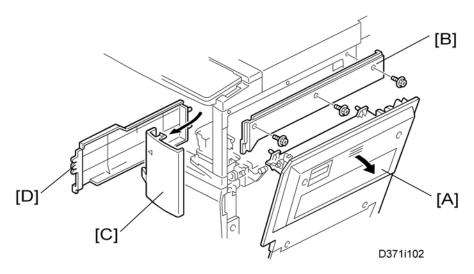
Interchange Unit (D371)

Installation Procedure

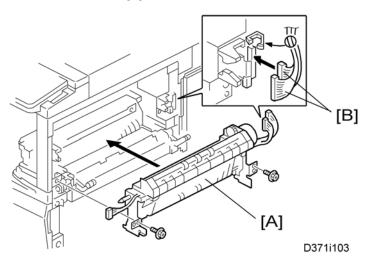
ACAUTION

- Unplug the copier power cord before starting the following procedure.
- 1. Remove all tapes.

2



- 2. Open the right cover [A] of the copier.
- 3. Remove the right upper cover [B] (x 3)
- 4. Remove the front right cover [C] (hook)
- 5. Slide out the exit cover [D].

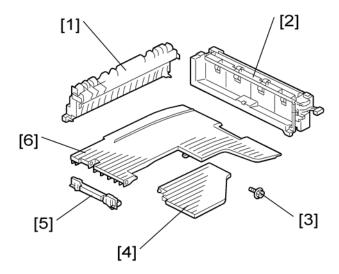


- 6. Install the interchange unit [A] (🔎 x 2).
- 7. Connect the two harnesses [B].

Component Check

Check the quantity and condition of the components against the following list.

No.	Description	Qty
1	1-Bin Tray Guide	1
2	1 Bin Tray Unit	1
3	Tapping Screw M3 x 8	1
4	Sub-tray	1
5	Tray Guide	1
6	Tray	1



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9

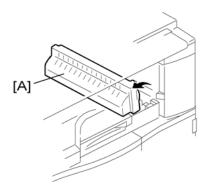
Installation Procedure

ACAUTION

• Unplug the copier power cord before starting the following procedure.

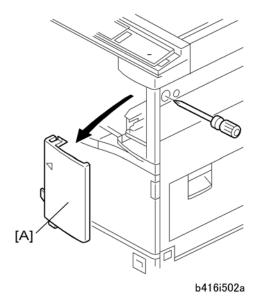


- Before installing this 1-bin tray unit, the optional interchange unit (D371) must be installed.
- 1. Remove all tapes.

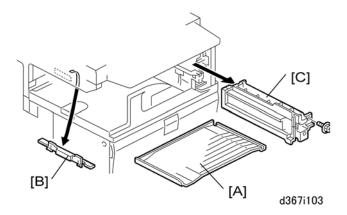


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- 2. If the optional bridge unit has been installed, open the right jam removal cover [A] of the bridge unit.
 -or-
 - If the optional bridge unit is not installed, skip this step.
- 3. If the duplex unit has not been installed go to Step 7.
 - If the duplex unit has been installed...

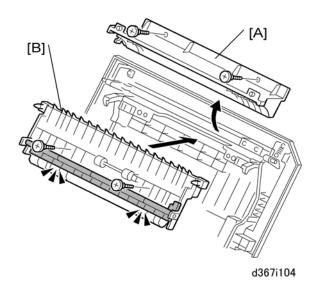


4. Remove the front right cover [A].

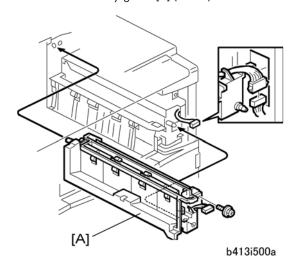


- 5. Remove the duplex tray [A] and duplex tray guide [B].
- 6. Remove the duplex guide [C] (\nearrow x 1).

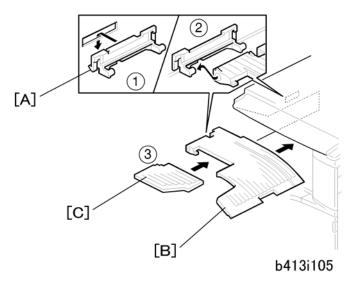
Install the 1-Bin Tray



- 7. Remove plate [A] (** x 2)
- 8. Attach the 1-bin tray guide [B] ($\ensuremath{\ensuremath{\not{\ensuremath{\mathcal{P}}}}} \times 2)$



- 9. Install the 1-bin tray unit [A] ($\mathscr{F} \times 1$, $\overset{\text{quanter}}{\longrightarrow} \times 1$)
- 10. Re-install the front right cover.



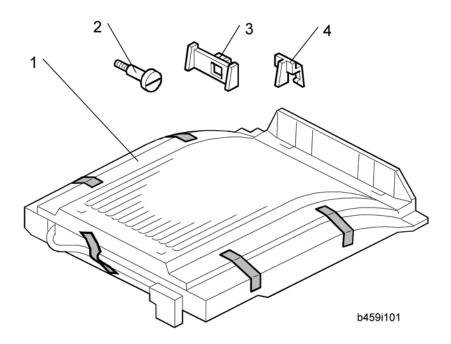
- 11. Install the tray guide [A].
- 12. Install the tray [B].
- 13. Install the sub-tray [C].
- $14.\,$ Turn on the main power switch and check the 1-bin tray unit operation.

Shift Tray (D385)

Component Check

Check the quantity and condition of the components against the following list.

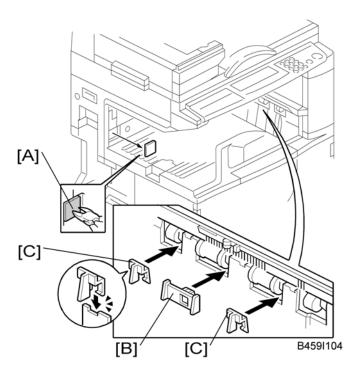
No.	Description	Q'ty
1	Shift Tray Unit	1
2	Stepped Screw	1
3	Paper Guide – Large	2
4	Paper Guide - Small	1



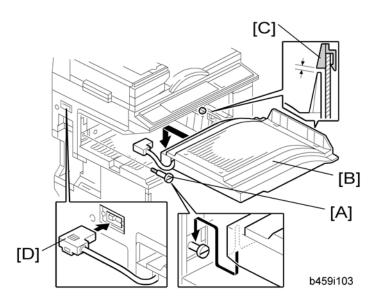
Installation Procedure

ACAUTION

• Unplug the copier power cord before starting the following procedure.



- 1. Remove all tapes.
- 2. Remove the plate [A].with nippers.
- 3. Install the large paper guide [B] and two small paper guides [C], as shown.



- 4. Install the stepped screw [A].
- 5. Install the shift tray unit [B], as shown.



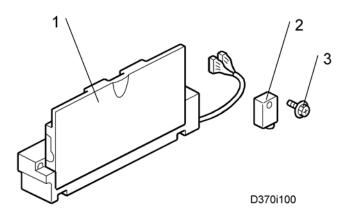
- Set the shift tray on the stepped screw.
- The shift tray must be installed under the paper guide [C] installed in step 3.
- 6. Connect the cable [D] to the copier.
- 7. Turn on the main power switch. Then select the shift tray with the user tool
 - System Settings General Features Output: Copier (and Output: Document Server, Facsimile, Printer): Enable the shift tray – you can also enable the standard tray (internal Tray 1), 1-bin tray (internal tray 2), or the finisher proof tray.
- 8. Check the shift tray operation.

Bypass Feed Unit (D370)

Components Check

Check the quantity and condition of the components against the following list.

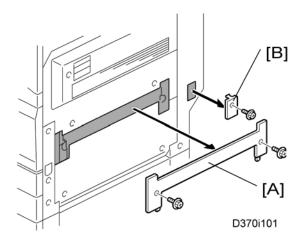
No.	Description	Quantity
1	By-pass Tray Unit	1
2	Connector Cover	1
3	Tapping Screw	2



Installation Procedure

ACAUTION

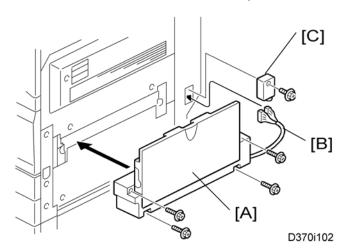
• Disconnect the copier power cord before you start this procedure.



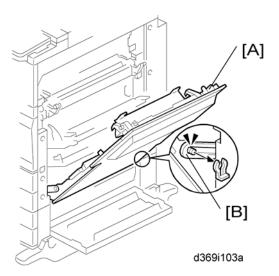
- 1. Remove all tapes.
- 2. Remove the entrance cover [A] ($\widehat{\mathbb{F}}$ x 2) and cover [B] ($\widehat{\mathbb{F}}$ x 2).



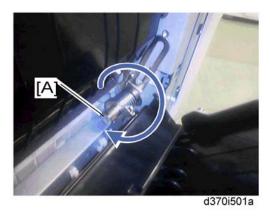
• These removed screws will be used in steps 3 and 5.



- 3. Install the by-pass tray unit [A] (\mathscr{F} x 4: two of these are removed in Step 2).
- 4. Connect the cable [B] to the machine.
- 5. Install the connector cover [C] (\nearrow x 1: this screw is removed in Step 2).



- 6. Open the right cover [A].
- 7. Release the rear link [B] (\heartsuit x 1).



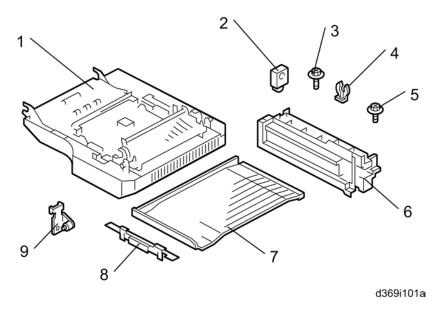
- 8. Rotate the rear link shaft [A] clockwise by 360 degrees to strengthen the spring tension.
- 9. Reattach the rear link ($\sqrt[n]{x}$ 1).
- 10. Close the right cover.
- 11. Turn the main power switch on and check the by-pass tray function.
- 12. Make a copy from the by-pass tray. Then check the registration.

Duplex Unit (D369)

Accessory Check

Check the quantity and condition of the components against the following list.

No.	Description	Quantity
1	Duplex Unit	1
2	Connector Cover	1
3	Tapping Screw - M3x8	1
4	Clip	1
5	Tapping Screw - M3x6	1
6	Duplex Guide	1
7	Duplex Tray	1
8	Duplex Tray Guide	1
9	Link Bracket	1



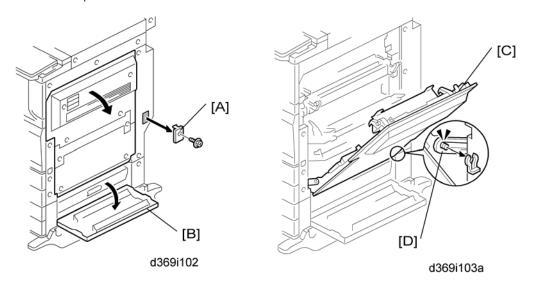
Installation Procedure

ACAUTION

• Unplug the copier power cord before starting the following procedure.

U Note

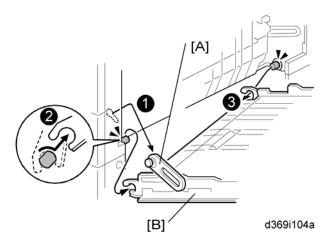
- Before installing the duplex unit, the optional interchange unit (D371) must be installed.
- 1. Remove all tapes.



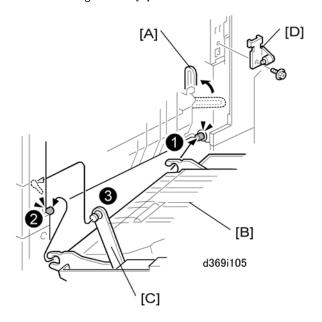
2. Remove the connector cover [A] (Fx 1).



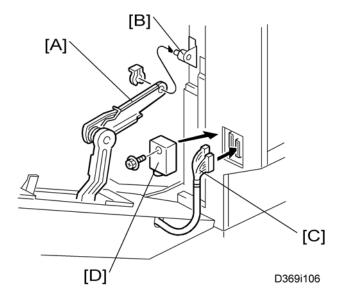
- Keep this screw. This screw will be used in step 12.
- 3. Open the right cover [B] of the optional paper tray unit or LCT and right cover [C].



- 5. Release the front link [A] from the mainframe.
- 6. Remove the right cover [B].



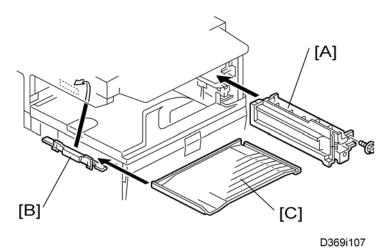
- 7. Turn up the rear link [A] of the main machine.
- 8. Install the duplex unit [B].
- 9. Install the link bracket [D] (x 1: M3x6).
- 10. Attach the front link [C] of the duplex unit to the main machine.



- 11. Attach the link [A] to the shaft [B] and secure it with the clip.
- 12. Connect the cable [C] and install the connector cover [D] ($\widehat{\mathscr{F}} \times 1$).



- This screw is removed in **step 2**.
- Steps 13 and 14 described below are not required if the 1-Bin Tray has been installed.



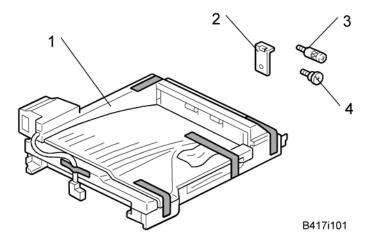
- 13. Install the duplex guide [A] (\mathscr{F} x 1: M3x8).
- 14. Install the duplex tray guide [B] and duplex tray [C].
- 15. Turn on the main power switch and check the duplex unit function.

Bridge Unit (D368)

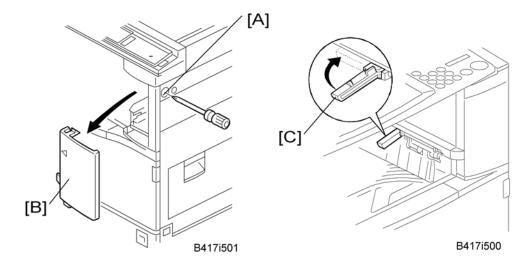
Component List

Check the quantity and condition of the components against the following list.

No.	Description	Quantity
1	Bridge Unit	1
2	Securing Plate	1
3	Shoulder Screw	1
4	Knob Screw	1

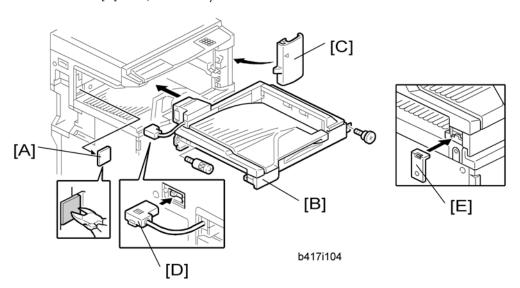


Installation Procedure



ACAUTION

- Unplug the copier power cord before starting the following procedure.
- 1. Remove all tapes.
- 2. Loosen the screw [A] and remove the front right cover [B].
- 3. If the sensor feeler [C] is out, fold it away into the machine.



- 4. Remove the cover [A].
- 5. Install the bridge unit [B] (1 shoulder screw, 1 knob screw).

- 6. Reinstall the front right cover [C].
- 7. Connect the cable [D] to the main machine.
- 8. Attach the securing plate [E], as shown.

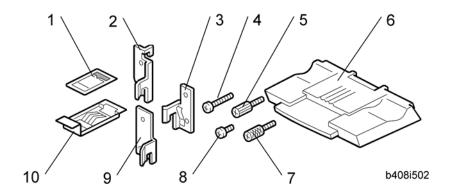


- Do not attach it with a screw; This is done when securing the front stand for the optional finisher.
- 9. Install the optional finisher (refer to the finisher installation procedure).

Accessory Check

Check the quantity and condition of the accessories against the following list.

1000-Sheet Finisher (B408)



No.	Description	Q'ty	For this model
1	Staple Position Decal	1	✓
2	Rear Joint Bracket	1	✓
3	Front Joint Bracket	1	✓
4	Screw - M4 x 14	4	✓ (Use 3)
5	Knob Screw - M4 x 10	1	✓
6	Copy Tray	1	✓
7	Knob Screw - M3 x 8	1	✓
8	Screw - M3 x 8	1	✓
9	Rear Joint Bracket	1	
10	Grounding Plate	1	✓

^{√ =} Necessary, --- = Not necessary

2

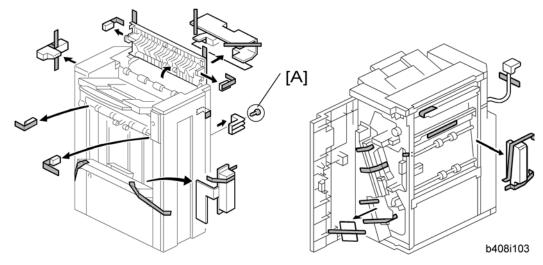
Installation procedure

CAUTION

• Unplug the main machine power cord before starting the following procedure.

The following options must be installed before you install this finisher:

- Bridge Unit (D368)
- Paper Tray Unit (D331) or LCT (B391)

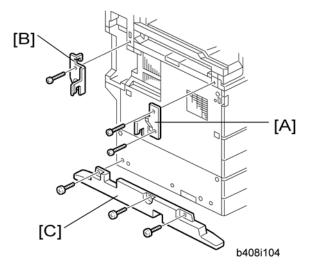


b408i102

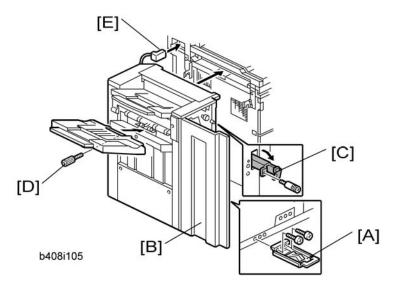
1. Unpack the finisher and remove the tapes.



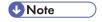
• Be sure to keep screw [A]. It will be needed to secure the grounding plate in step 4.



- 2. Install the front joint bracket [A] (\mathscr{F} x 2; M4x17) and rear joint bracket [B] (\mathscr{F} x 1; M4x17).
- 3. Remove the left stand [C] (x 3).

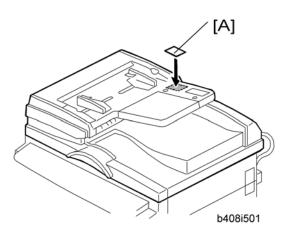


4. Install the lower grounding plate [A] on the finisher (Fx 2; M3x8).



- Use the screw removed in step 1 and the screw from the accessory box.
- 5. Open the front door [B]. Then pull the locking lever [C] (*x 1; knob M3x8).
- 6. Align the finisher on the joint brackets, and lock it in place by pushing the locking lever.
- 7. Secure the locking lever (x 1; knob M3x8) and close the front door.
- 8. Install the copy tray [D] (\mathscr{F} x 1; knob M4x10).

9. Connect the finisher cable [E] to the main machine.



- 10. Attach the staple position decal [A] to the ARDF as shown.
- 11. Turn on the ac switch and check the finisher operation.

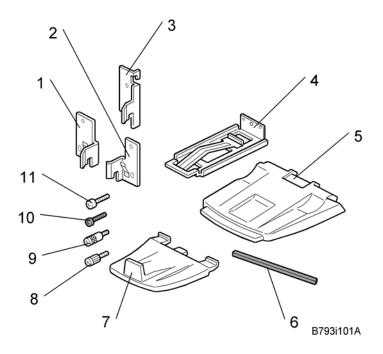
1000-Sheet Booklet Finisher (B793)

Accessory Check

Check the quantity and condition of the components against the following list.

No.	Description	Quantity	For This Model
1	Rear Joint Bracket	1	No
2	Front Joint Bracket	1	Yes
3	Rear Joint Bracket	1	Yes
4	Grounding Plate	1	Yes
5	Upper Output Tray	1	Yes
6	Cushion	2	Yes
7	Lower Output Tray	1	Yes
8	Short Knob screw	1	Yes
9	Long Knob screw	1	Yes
10	Screw (M3 x 8)	2	Yes
11	Screw (M4 x 14)	4	Yes (Use all)

9



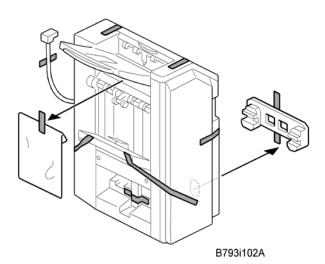
Installation Procedure

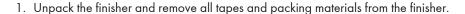
ACAUTION

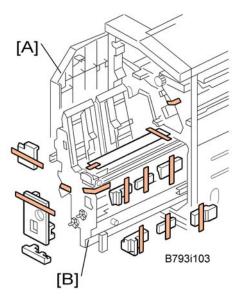
• Unplug the machine power cord before starting the following procedure.

Some optional units must be installed before installing this finisher (B793). Refer to the following:

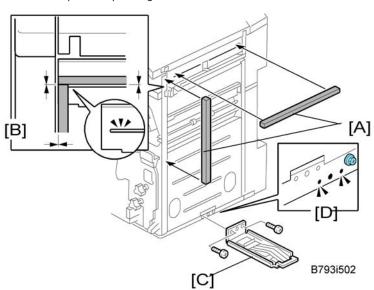
• D368 and either B391 or D331







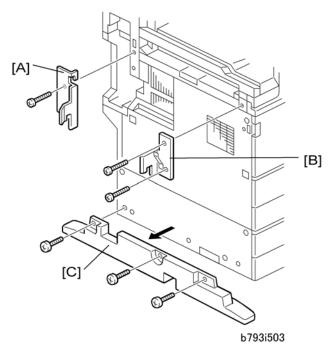
- 2. Open the front door [A] of the 1000-sheet booklet finisher, and then pull out the jogger unit [B].
- 3. Remove all tapes and packing materials from the inside of the finisher.



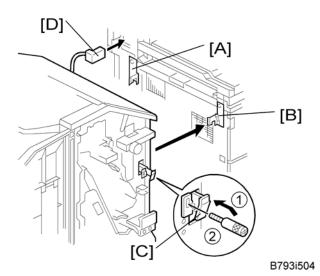
4. Attach the cushions [A] to the finisher.



- Make sure that the cushions are placed within 0 to 1 mm [B] from the edge of the cover or frame.
- 5. Install the ground plate [C] on the finisher [D] (x 2; M3x8).

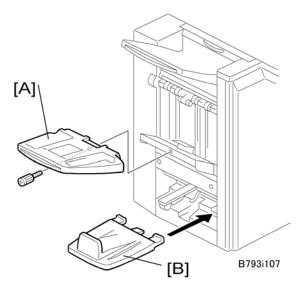


- 6. Attach the rear joint bracket [A] (* x 1; M4x14).
- 7. Attach the front joint bracket [B] (x 2; M4x14).
- 8. Remove the left support [C] from the optional paper tray unit or LCT.



- 9. Slowly push the finisher to the left side of the machine, keeping its front door open until the brackets [A] [B] go into their slots.
- 10. Push the lock lever [C], and then secure it (Long knob screw x 1).

- 11. Close the front door of the finisher.
- 12. Connect the finisher connector [D] to the machine.



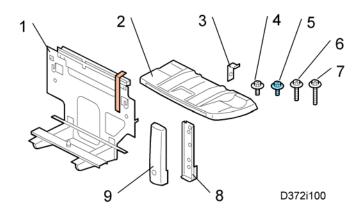
- 13. Install the upper output tray [A] (short knob screw x 1).
- 14. Install the lower output tray [B].
- 15. Turn on the main power switch of the machine.
- 16. Check the 1000-sheet booklet finisher operation.

500-Sheet Finisher (D372)

Accessory Check

Check the quantity and condition of the accessories against the following list.

No	Description	Q'ty	For This Model
1	Unit Holder	1	Yes
2	Shift Tray	1	Yes
3	Holder Bracket	1	Yes
4	Screw: M3 x 8	4	Yes (Use 2)
5	Screw: M3 x 6	1	Yes
6	Screw: M4 x 14	4	Yes (Use 3)
7	Screw: M4 x 20	4	No
8	Support Bracket	2	No
9	Support Bracket Cover	2	No



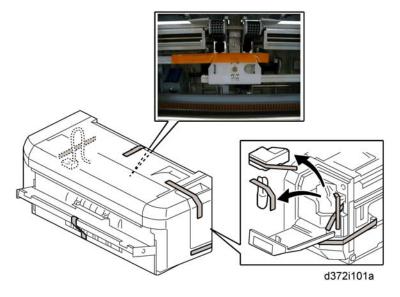
Installation Procedure

ACAUTION

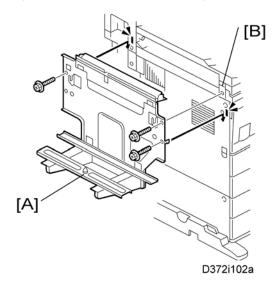
• Unplug the main machine power cord before starting the following procedure.



• Before you install the 500-sheet finisher, the optional bridge unit (D368) must be installed.



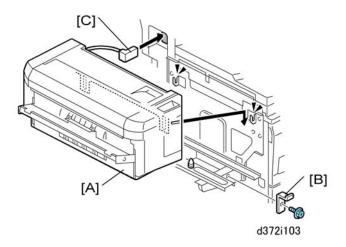
1. Unpack the finisher and remove the tapes.



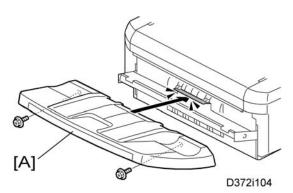
2. Install the unit holder [A] (\mathscr{F} x 3 - M4x14).



• Make sure that the bracket [B] is installed in the bridge unit.

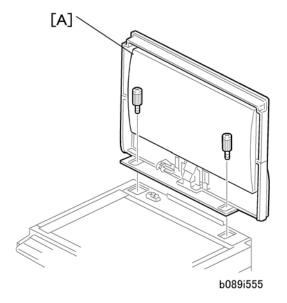


- 3. Install the 500-sheet finisher [A].
- 4. Install the holder bracket [B] (\mathscr{F} x 1; M3 x 6).
- 5. Connect the finisher cable [C].



- 6. Install the shift tray [A] ($\mathscr{F} \times 2 M3 \times 8$).
- 7. Turn on the main power switch and check the finisher operation.

Platen Cover (B406)



1. Install the platen cover [A] ($\widehat{\mathbb{F}}$ x 2).

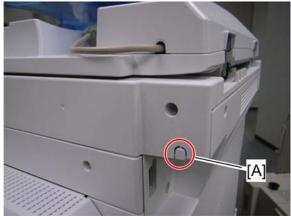
2

Key Counter (B452)

Installation Procedure

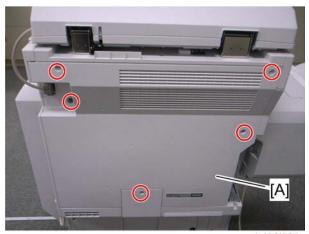
ACAUTION

• Disconnect the copier power cord before you start this procedure.



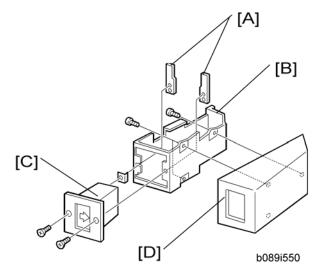
b452i502

1. Cut off the part [A] of the right over.

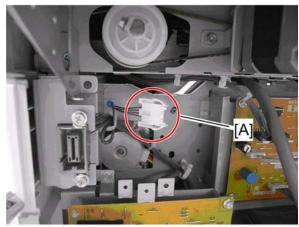


b452i501

2. Remove the rear cover [A] ($\mathcal{F} \times 5$)

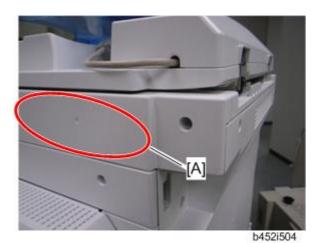


- 3. Hold the key counter plate nuts [A] on the inside of the key counter bracket [B] and insert the key counter holder [C].
- 4. Secure the key counter holder to the bracket ($\slash\hspace{-0.6em}\widetilde{\hspace{-0.5em}/}\hspace{-0.5em} x$ 2).
- 5. Install the key counter cover [D] ($\mathscr{F} \times 3$).



b452i503

- 6. Connect the harness of the key counter to the connector [A] inside the machine.
- 7. Reattach the rear cover (x 5).

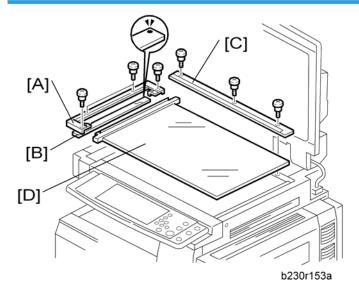


- 8. Peel off the double-sided tape on the key counter bracket and attach the key counter to the scanner right cover [A].
- 9. Reassemble the machine.
- 10. Use the User Tools to enable the counter function for the following modes:
 - Copy mode
 - Document server mode
 - Fax mode
 - Scanner mode
 - Printer mode

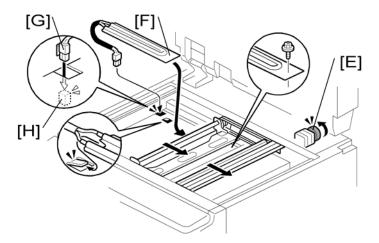
Heaters

Anti-Condensation Heater (Scanner Unit)

Installation Procedure



- 1. Rear cover (see p.153 "Exposure Lamp" in the "Replacement and Adjustment" section)
- 2. Open the ARDF or platen cover.
- 3. Glass cover [A] (x 4)
- 4. ARDF exposure glass [B]
- 5. Rear scale [C] (x 3)
- 6. Exposure glass with left scale [D]

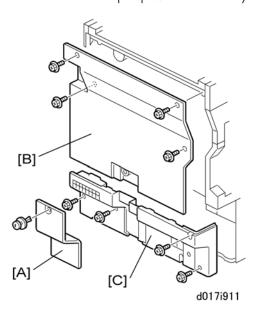


- 7. Move the scanner carriage to the right side by rotating the scanner motor [E].
- 8. Install the heater [F] in the scanner unit (🗐 x 1, hook)
- 9. Put the connector [G] through the cutout.
- 10. Connect it to the connector [H] (blue and red cords) in the frame of the machine.
- 11. Reassemble the machine.

Tray Heater (Copier)

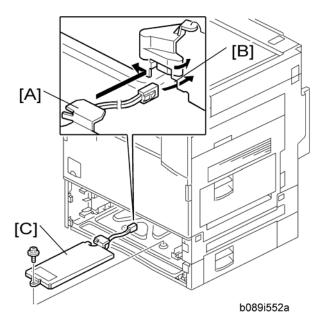
ACAUTION

• Disconnect the copier power cord before you start this procedure.

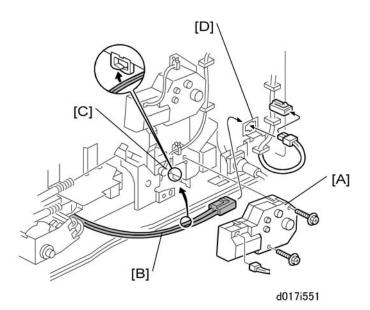


1. Remove:

- Connector cover [A]
- Rear upper cover [B] (🖟 x 4)
- Rear lower cover [C] (* x 4)



- 2. Slide out the 1st and 2nd paper trays.
- 3. Pass the connector [A] through the opening [B].
- 4. Install the tray heater assembly [C] (\mathscr{F} x 1).

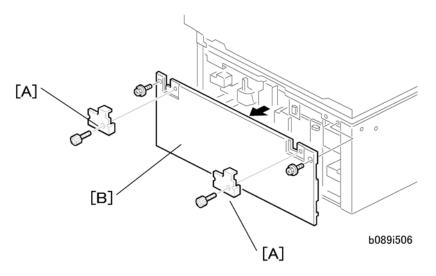


- 5. Remove the 2nd paper lift motor [A] (F x 2, 🗐 x 1).
- 6. Route the heater cable [B] as shown.
- 7. Clamp the heater cable at [C] as shown.
- 8. Connect the heater cable to the ac cable at [D].

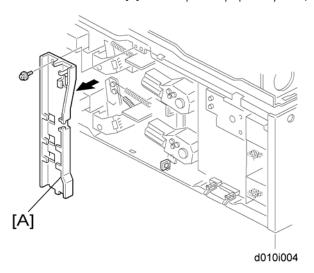
Tray Heater (Optional Paper Tray Unit)

ACAUTION

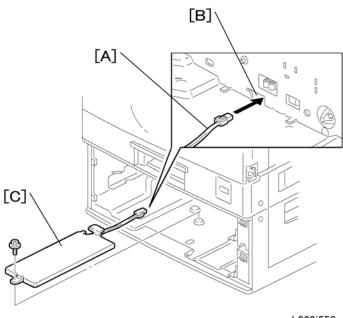
• Disconnect the copier power cord before you start this procedure.



- 1. Remove the joint brackets [A] (F x 1 each).
- 2. Remove the rear cover [B] for the optional paper tray unit ($\ensuremath{\mathscr{F}}$ x 2).

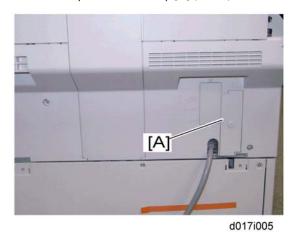


3. Remove the cable guide [A] (\nearrow x 1).

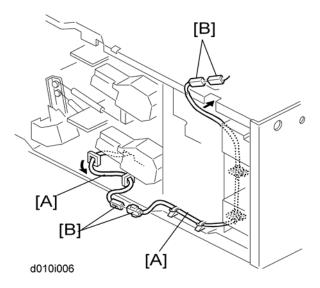


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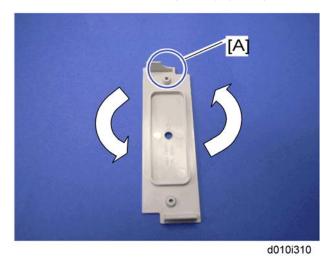
- 4. Slide out the two paper trays from the optional paper tray unit.
- 5. Pass the connector [A] through the opening [B].
- 6. Install the tray heater assembly [C] ($\slash\hspace{-0.6em}\widehat{\mathcal{F}} \times 1$).



7. Remove the heater harness cover [A] (rivet screw x 1).



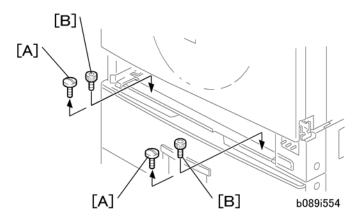
- 8. Clamp the cables [A], as shown.
- 9. Join the connectors [B].
- 10. Reinstall the cable guide.
- 11. Reinstall the rear cover for the optional paper tray unit.



12. Turn the heater harness cover upside down and reinstall it in the rear cover of the main machine.



- Make sure that cutout [A] is directed downward. Otherwise, the rear cover of the main machine pinches the heater harness and breaks it.
- 13. Reinstall the two paper trays into the optional paper tray unit.

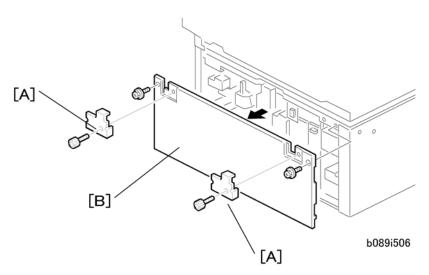


- 14. Remove the 2nd paper tray of the copier.
- 15. Remove two screws [A] and install the screws [B] which were removed in step 11.
- 16. Reinstall the 2nd paper tray of the copier.

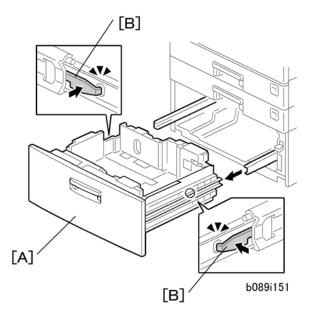
Tray Heater (Optional LCT)

ACAUTION

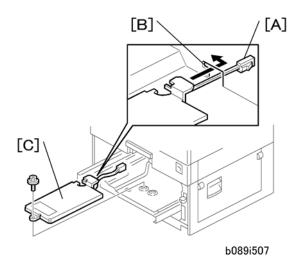
• Disconnect the copier power cord before you start this procedure.



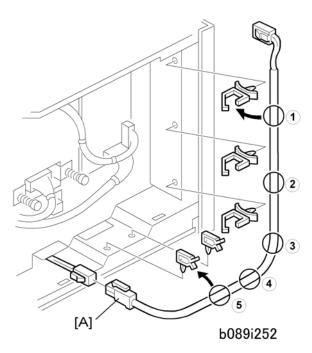
- 1. Remove two joint brackets [A] (\mathscr{F} x 1 each).
- 2. Remove the rear cover for the LCT [B] (\mathscr{F} x 2).



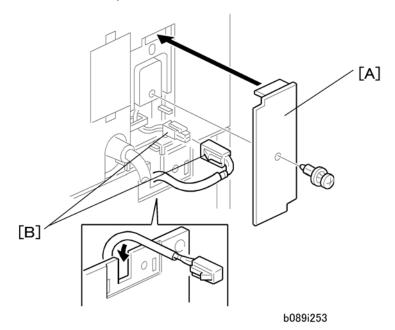
- 3. Slide out the paper tray [A].
- 4. Push the stopper [B] on both slide rails and remove the paper tray.



- 5. Pass the connector [A] through the opening [B].
- 6. Install the tray heater [C] (\nearrow x 1).

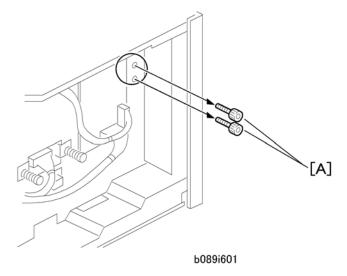


- 7. Install five clamps ($\cancel{\square} \times 5$).
- 8. Connect the cable tray heater cable [A].

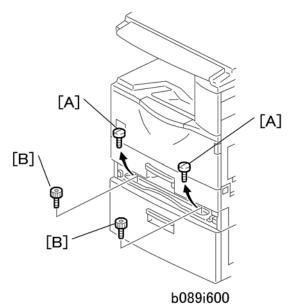


- 9. Route the cable and clamp it.
- 10. Remove the connector cover of the copier [A].
- 11. Join the connectors [B].

12. Reinstall the connector cover of the copier.



- 13. Remove two screws [A] from the rear side of the LCT.
- 14. Reinstall the rear cover of the LCT.
- 15. Reinstall the paper tray.



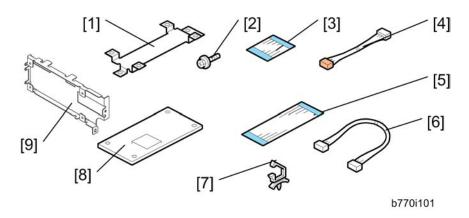
- 16. Remove the 2nd paper tray of the copier.
- 17. Remove two screws [A] and install the screws [B] which were removed in step 13.
- 18. Reinstall the 2nd paper tray of the copier.

Copy Data Security Unit (B829)

Accessories

Check the accessories and their quantities against the following list:

No.	Description	Quantity
1	Bracket (Not used for the B205 series copiers)	1
2	Screws	4
3	FFC (Short) (Not used)	1
4	Harness (Not used)	1
5	FFC (Long)	1
6	Connection Cable	1
7	Harness Clamp	1
8	ICIB	1
9	Bracket	1

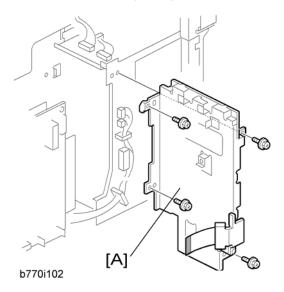


Installation Procedure

ACAUTION

• Turn off the main power switch and disconnect the copier power cord before you start this procedure.

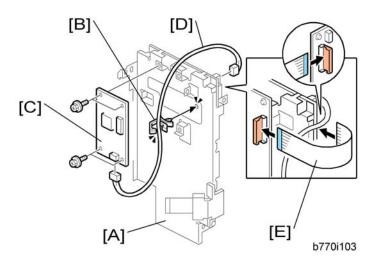
- 1. Remove these parts: (see p.206 "Controller Board" in "Replacement and Adjustment")
 - Controller board plastic cover (Fx1).
 - FCU faceplate (x3)
 - Controller board unit (F x3)
- 2. Remove these parts: (see p.195 "Paper Tray Lift Motors" in "Replacement and Adjustment")
 - Paper tray unit connector cover (x1)
 - Disconnect the paper tray unit or LCT (if it is installed) (x1)
 - Rear cover (x1).
- 3. Pull the controller board partially out of the left slot to disconnect it from the IPU.



4. Remove the IPU [A] from the main machine.



• The board for this option is installed on the back of the IPU board.



- 5. Attach the harness clamp [B].
- 6. Attach the ICIB [C] (*x4)
- 7. Connect the cable [D] between the ICIB [C] and the IPU Board [A].
- 8. Connect the flat film connector [E] to the ICIB and IPU boards.
- 9. Reinstall the IPU board.
- 10. Turn on the machine.
- 11. Enable the Copy Data Security function:
 - [User Tools]> System Settings> Administrator Tools> Data Security for Copying

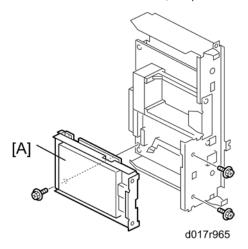
Accessory Check

No.	Description	Q'ty	For D017/D019
1	HDD Unit	1	✓
2	Screw	3	✓
3	Keytop: Copy	2	✓
4	Keytop: Document Server	2	√
5	Knob Screw	3	

√ = Necessary, --- = Not necessary

Installation

- 1. Remove the plastic application cover (F x1).
- 2. Remove the controller board. (See p.206 in the "Replace and Adjustment".)



- 3. Attach the HDD unit [A] to the controller board bracket ($^{\square}$ x2, $^{\wp}$ x3).
- 4. Reinstall the controller board with the HDD.

2

After Installing the HDD

- 1. Do SP5832-001 to format the hard disk.
- 2. Do SP5853-001 to copy the preset stamp data from the firmware to the hard disk.
- 3. Do \$P5846-040 to copy the address book to the hard disk from the controller board.
- 4. Do SP5846-041 to let the user get access to the address book.
- 5. Turn the main power switch off/on.

Mechanical Counter

This counter is only used for NA models.

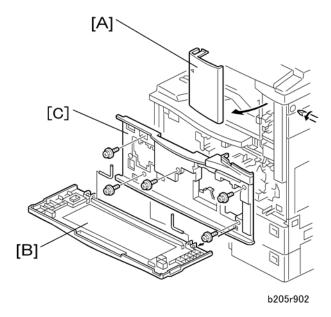
Accessory Check

No.	Description	Q'ty
1	Mechanical counter	1

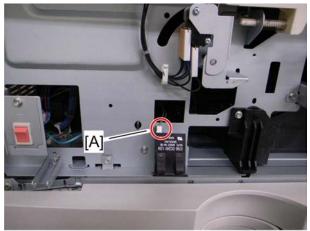
Installation

ACAUTION

• Unplug the machine power cord before starting the following procedure.

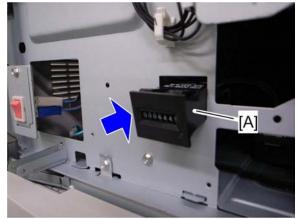


- 1. Remove the front right cover [A]. (F x 1, Hook x 1)
- 2. Remove the front cover [B] (L-brackets x2).
- 3. Remove the front inner cover [C] ($\mathscr{F} \times 5$).



d017i515

4. Connect the harness [A] to the mechanical counter.

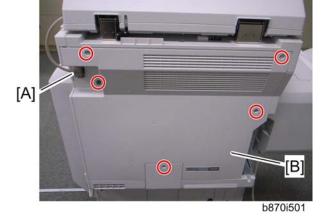


d017i516

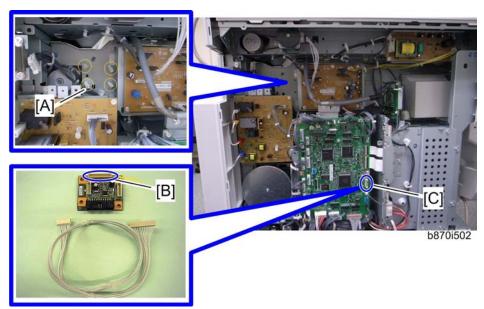
- 5. Push the mechanical counter [A] into the machine.
- 6. Reassemble the machine.

Key Counter Interface Unit

Installation Procedure

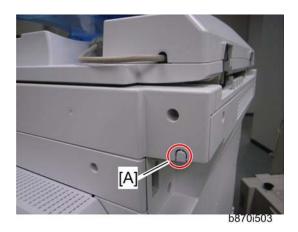


- 1. Disconnect the DF I/F cable [A] if the ARDF is installed.
- 2. Remove the rear cover [B] ($\Re \times 5$)



- 3. Attach the studs [A] (x 4) in the holes on the controller box.
- 4. Install the key counter interface board on the four studs [A].
- 5. Connect the harness to "CN3" [B] on the key counter interface board.
- 6. Connect the other terminal of the harness to "CN345" [C] on the IOB (🗒 x 1).

9



- 7. Cut off the part [A] of the scanner right cover.
- 8. Connect the harness from the counter device to "CN4" on the key counter interface board.
- 9. Reassemble the machine.

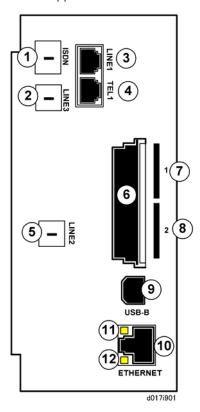
Controller Options

Controller Board Slots

Interface Board, SD Card Slots

The machine controller box has one board slot and two SD card slots.

- Only one interface board option can be installed.
- Only two SD cards are available for applications and maintenance.



Board Slots

No.	Name	Description
1	ISDN	Jack for ISDN connection (Japan Only)
2	Line 3	Not used. (G4 is not available for installation outside Japan at this time.)

No.	Name	Description	
3	Line 1	Jack for the main telephone line from the outside for connection to Fax Option (D361).	
4	TEL1	Jack for telephone connection	
5	Line 2	Jack for a 2nd line connection to the Fax Interface Unit (D361) (G3) when this option is installed.	
6	Board Slot	Optional interface boards are installed here.	
7	SD Card Slot 1	For options provided on SD cards. The application SD card (with the exception of the HDD Encryption unit or VM SD card) should be installed in Slot 1. If more than one application is to be used, move the applications to the same SD card with SP5873.	
8	SD Card Slot 2	For options provided on SD cards and servicing. The VM application, HDD Encryption Unit and Browser Unit SD cards mus be installed in Slot 2 (lower). However, HDD Encryption Unit and Browser Unit SD cards do not need to be kept in SD slot 2 (these can be removed after installing).	
9	USB-B	Built-in for connection of USB devices (USB 2.0)	
10	Ethernet	Standard LAN connection point. 100BaseT LAN	
11	Green LED	Lights when the network is connected and operating.	
12	Orange LED	Indicates the current transmission speed: ON: 100Base OFF: 10Base	

- Only two SD Card slots are available for applications.
- To install more applications, they must be moved onto one SD Card. (See Moving an Application to Another SD Card)

Board Slot

The following optional interface boards are available. There is only one board slot so only one can be installed.

No.	Interface Board
B679	IEEE1284 Interface Board Type A (B679)

No.	Interface Board
B826	Bluetooth Interface Unit Type 3245 (B826)
D377	File Format Converter Type E (D377)
D377	IEEE802.11a/g Interface Unit Type J/K (D377)
G831	Gigabit Ethernet Type 7300 (G831)

SD Card Slots

The following options are provided on SD cards.

- Two SD card slots are available.
- The VM application, HDD Encryption Unit and Browser Unit SD cards must be installed in Slot 2 (lower). However, HDD Encryption Unit and Browser Unit SD cards do not need to be kept in SD slot 2 (these can be removed after installing).
- Other applications should be installed in Slot 1 (upper). If more than one application is required, move the applications onto one SD card with SP5873-1.
- Due to limitations, the VM Card (D377) can be neither merged nor moved to another SD card. This card must be installed in Slot 2 (lower).
- Due to copyright restrictions, the PostScript3 Unit (D383) cannot be moved to another SD card. However, other applications can be moved onto the PostScript 3 SD card.

No.	SD Card Applications for All Models
D362	Data Overwrite Security Unit Type I (D362)
D377	Browser Unit Type D (D377)
D377	HDD Encryption Unit (D377)
D377	VM Card Type E (D377)
D383	PostScript3 Unit Type 3350 (D383)
D383	IPDS Unit Type 3350 (D383)

	No.	SD Card Applications for D017/D019 Models
D	383	Printer Enhance Option Type 3350 (D383)
D	383	Printer Unit Type 3350 (D383)

No.	SD Card Applications for D017/D019 Models	
D383	Printer/Scanner Unit Type 3350 (D383)	
D383	RPCS Printer Unit Type 3350 (D383)	
D383	Scanner Enhance Option Type 3350 (D383)	

IEEE 1284 Interface board (B679)

Accessories

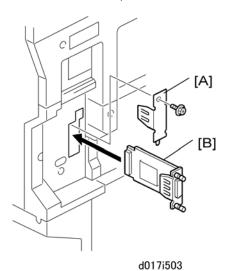
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	IEEE 1284 Interface Board B679	1

Installation

CAUTION

• Turn off the main power switch and disconnect the power supply cord.



- 1. Remove the application cover (Fx1).
- 2. Remove the cover [A] of the board slot ($\mathscr{F} \times 1$).
- 3. Install the interface board [B] (x2 knob screws).



- Use a screwdriver to tighten the knob-screws. Do not tighten manually, because this can disconnect the board.
- 4. Reattach the application cover (Fx1).



• If the 500-Sheet Finisher is installed, remove it before you attach the parallel cable. Install the finisher again after you connect the parallel cable.

IEEE 802.11a/g (D377)

Accessories

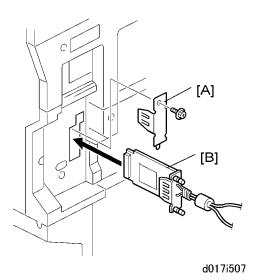
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	IEEE 802.11a/g Interface Board	1
2	Antenna Cables	2
3	Antenna Clamps	8

Installation



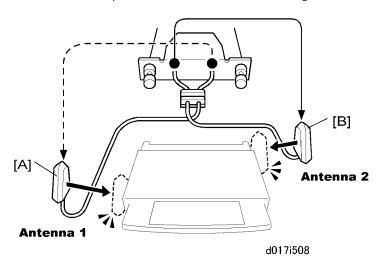
• Turn off the main power switch and disconnect the power supply cord.



- 1. Remove the plastic application cover (x1).
- 2. Remove the cover [A] of the board slot ($\mathscr{F} \times 1$).
- 3. Insert the interface card [B] as shown above.

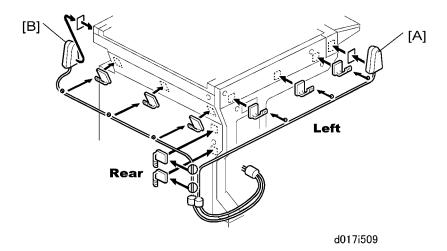


- Use a screwdriver to tighten the knob-screws. Do not tighten manually, because this can disconnect the board.
- 4. Look at the markings on the antenna bracket.
 - ANT1. Antenna 1 transmits and receives. It must be installed on the front left corner of the main machine. (The core on the Antenna 1 cable is black.)
 - ANT2. Antenna 2 only receives. It is installed on the rear right corner of the machine.





To assure reliable data sending and receiving, Antenna 1 must be installed on the front left corner
of the machine.



- 5. Remove the seals from of the cable clamps and attach them to the left side of the machine as shown above.
- 6. Attach Antenna 1 [A] to the left front corner of the machine. (The core on the Antenna 1 cable is black.)
- 7. Set the cable of Antenna 1 in the clamps and close them.
- 8. Remove the seals from the cable clamps and attach them to the rear of the machine as shown above.
- 9. Attach Antenna 2 [B] to the right rear corner of the machine.
- 10. Set the cable of Antenna 2 in the clamps and close them.

User Tool Settings for IEEE 802.11a/g

Go into the User Tools mode and do the procedure below. These settings take effect every time the machine is powered on.



- You cannot use IEEE 802.11a/g if you use Ethernet.
- 1. Press the "User Tools" key.
- 2. On the touch panel, touch "System Settings".



- The Network I/F (default: Ethernet) must be set for either Ethernet or wireless LAN.
- 3. Select "Interface Settings"> "Network"> "Network I/F Setting"
- 4. Press "IEEE 802.11". Only the wireless LAN options show.

- 5. Set the Communication Mode. Select either "802.11 Ad hoc", "Ad hoc" or "Infrastructure".
- 6. Enter the SSID setting. (The setting is case sensitive.)
- 7. Set the Channel. You need this setting when Ad Hoc Mode is selected.
 - Range: 1 to 14 (default: 11)
 - The allowed range for the channel settings may vary for different countries.
- 8. Do the WEP (Encryption) Setting.
 - The WEP (Wired Equivalent Privacy) setting is designed to protect wireless data transmission.
 The same WEP key is required on the receiving side in order to unlock encoded data. There are
 64 bit and 128 bit WEP keys.
 - WEP: Select "Active" or "Inactive". ("Inactive" is the default.)
 - Range of Allowed Settings: 64-bit (10 characters) or 128-bit (26 characters)
- 9. Set the Transmission Speed.
 - Press the Next button to show more settings. Then select the transmission speed for the mode:
 Auto, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps (default: Auto). This setting should match the
 distance between the closest machine or access point. This depends on which mode is selected.
 - For the Ad Hoc Mode, this is the distance between the machine and the closest PC in the network.
 For the Infrastructure Mode, this is the distance between the machine and the closest access point.

11 Mbps	140 m (153 yd.)
5.5 Mbps	200 m (219 yd.)
2 Mbps	270 m (295 yd.)
1 Mbps	400 m (437 yd.)

- 10. Press "Return to Default" to initialize the wireless LAN settings. Press "Yes" to initialize the following settings:
 - Transmission mode
 - Channel
 - Transmission Speed
 - WEP
 - SSID
 - WEP Key

SP Mode Settings for IEEE 802.11a/g Wireless LAN

The following SP commands and UP modes can be set for IEEE 802.11a/g.

SP No.	Name	Function	
5840 006	Channel MAX	Sets the maximum range of the channel settings for the country.	
5840 007	Channel MIN	Sets the minimum range of the channels settings allowed for your country.	
5840 011	WEP Key Select	Used to select the WEP key (Default: 00).	
	Name	Function	
	SSID	Used to confirm the current SSID setting.	
UP mode	WEP Key	Used to confirm the current WEP key setting.	
	WEP Mode	Used to show the maximum length of the string that can be used for the WEP Key entry.	

Bluetooth Unit (B826)

Accessories

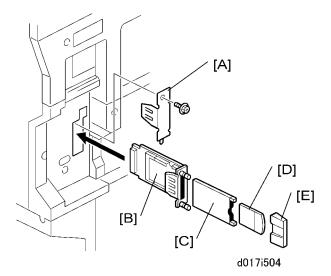
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	Bluetooth Unit B826	1
2	PCI Card	1
3	Сар	1

Installation

ACAUTION

• Turn off the main power switch and disconnect the power supply cord.



- 1. Remove the plastic application cover (\mathscr{F} x1).
- 2. Remove the cover [A] of board slot ($\mathscr{F} \times 1$).
- 3. Attach the interface board [B] to the controller board (Fx2 knob screws).



- Use a screwdriver to tighten the knob-screws. Do not tighten manually, because this can disconnect the board.
- 4. Install the Bluetooth card [C] in the slot in the Bluetooth unit.
- 5. Insert the antenna [D] into the Bluetooth card.
- 6. Attach the antenna cap [E].

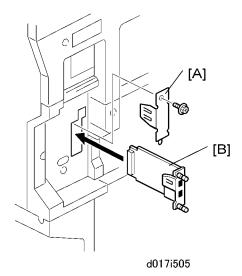
Gigabit Ethernet (G831)

Accessories

Check the accessories and their quantities against the following list:

No	Description	Quantity
1	Gigabit Ethernet (G381)	1
2	Ferrite Core	1

1. Switch the machine off.



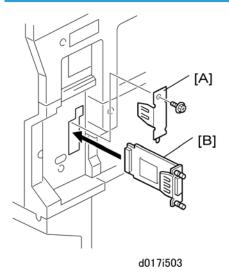
- 2. Remove the plastic application cover (Fx1).
- 3. Remove the board cover [A] (x 2).
- 4. Insert the Gigabit Ethernet Board [B] into the slot and fasten it with the screws.
- 5. Switch the machine on.
- 6. Print a configuration page to confirm that the machine recognizes the installed board for USB2.0: User Tools > Printer Features > List/Test Print > Configuration Page

File Format Converter Type E (D377)

Accessory Check

Check the accessories and their quantities against this list:

	Description	Q'ty
1.	File Format Converter (MLB: Media Link Board)	1



- 1. Switch the machine off.
- 2. Remove the plastic application cover (Fx1).
- 3. Remove the board slot cover [A] (Fx2).
- 4. Touch a metal surface to discharge any static electricity from your hands.
- 5. Set the interface board [B] in the open slot.
- 6. Confirm that the board is inserted completely, then fasten it (\mathscr{F} x 2).
- 7. Turn the machine power on.
- 8. Enter the SP mode and do SP5990 to print an SMC Report.
- 9. Read the report and confirm that the interface board is installed correctly.

PostScript 3 Unit (D383)

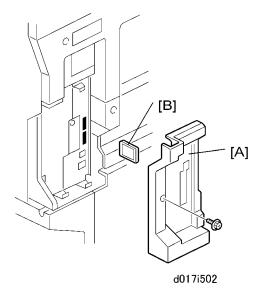
Accessories

Check the accessories and their quantities against the following list:

No	Description	Quantity
1	PostScript 3 Emulation SD Card (D383)	1
2	Decal	1

ACAUTION

• Turn off the main power switch and disconnect the power supply cord.

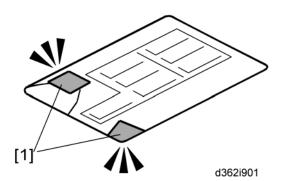


- 1. Remove the plastic application cover [A] (*\begin{align*} x 1 \).
- 2. Insert the SD card [B] into Slot 1 (upper slot).
- 3. Reattach the plastic application cover (Fx1).
- 4. Attach the "Adobe PostScript 3" decal to the front cover.

HDD Encryption Unit

Installation

Seal Check and Removal



- 1. Check the box seals [1] on each corner of the box.
 - Make sure that a tape is attached to each corner.
- 2. Open the box.

Installation Procedure

- 1. Make sure that the following settings are not at the factory default settings:
 - Supervisor login password
 - Administrator login name
 - Administrator login password



- These settings must be set up by the customer before the encryption option can be installed.
- 2. Confirm that "Admin. Authentication" is on:

[User Tools]>"System Settings">"Administrator Tools">"Administrator Authentication Management">
"Admin. Authentication"> "On"

If this setting is "Off" tell the customer that this setting must be "On" before you can do the installation procedure.

3. Confirm that "Administrator Tools" is selected and enabled:

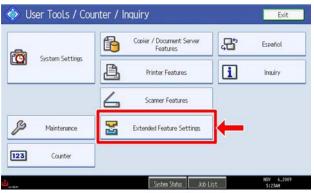
[User Tools]> "System Settings"> "Administrator Tools"> "Administrator Authentication Management"> "Available Settings



• "Available Settings" is not displayed until "Admin. Authentication" is switch on.

If this setting is not selected tell the customer that this setting must be selected before you can do the installation procedure.

- 4. For models which have the VM card, do the followings:
 - Press "User Tools" button to enter the User Tools mode.



d377i502

• Press "Extended Feature Settings" on the LCD.



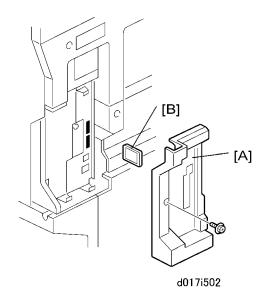
d377i503

• Press "Extended Feature Settings" on the LCD again.



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- Press "Startup Setting" tab.
- Stop all SDK applications with touching application lines.
- Exit the UP mode, and then turn off the machine.
- Remove the VM card from the SD card slot 2.

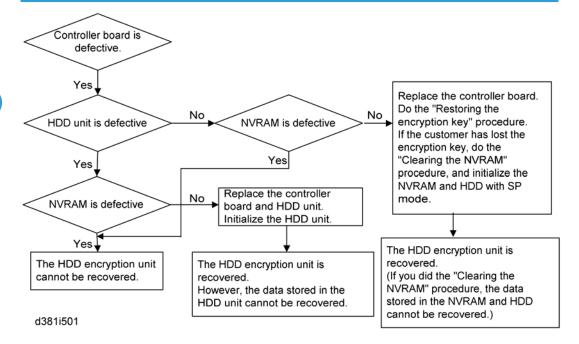


- 5. Remove the plastic application cover [A] (x 1).
- 6. Insert the SD card in SD card [B] Slot 2 (lower).



- The encryption SD card must be installed in Slot 2 (lower).
- 7. Turn on the main power switch.
- 8. Enter the SP mode.
- 9. Select SP5878-002 (Option Setup Encryption Option), and then touch [Execute].
- 10. Turn off the main power switch.
- 11. Remove the SD card.
- 12. Attach the slot cover [A] (*x 1).
- 13. Switch the machine on.

Recovery from a Device Problem



Restoring the encryption key

When replacing the controller board for a model in which the HDD encryption unit has been installed, updating the encryption key is required.

- 1. Prepare an SD card which is initialized.
- 2. Make the "restore_key" folder in the SD card.
- 3. Make an "nvram_key.txt" file in the "restore_key" folder in the SD card.
- 4. Ask an administrator to input the encryption key (this has been printed out earlier by the user) into the "nvram key.txt" file.
- 5. Remove only the HDD unit (p.217).
- 6. Turn on the main power switch.
- 7. Confirm that the prompt on the LCD tells you to install the SD card (storing the encryption key) in the machine.
- 8. Turn off the main power switch.
- 9. Insert the SD card that contains the encryption key into slot 2.
- 10. Turn on the main power switch, and the machine automatically restores the encryption key in the flash memory on the controller board.
- 11. Turn off the main power switch after the machine has returned to normal status.
- 12. Remove the SD card from slot 2.
- 13. Reinstall the HDD unit.

Clearing the NVRAM

When replacing the controller board for a model in which the HDD encryption unit has been installed and a customer has lost the encryption key, clearing the NVRAM is required to recover the HDD encryption unit.

- 1. Prepare an SD card which is initialized.
- 2. Make the "restore_key" folder in the SD card.
- 3. Make an "nvram_key.txt" file in the "restore_key" folder in the SD card.
- 4. Input "nvclear" into the "nvram_key.txt" file.
- 5. Turn on the main power switch.
- 6. Confirm that the prompt on the LCD tells you to install the SD card (storing the encryption key) in the machine.
- 7. Turn off the main power switch.
- 8. Insert the SD card that contains "nyclear" into slot 2.
- 9. Turn on the main power switch, and the machine automatically restores the encryption key in the flash memory on the controller board.
- 10. Turn off the main power switch after the machine has returned to normal status.
- 11. Remove the SD card from slot 2.
- 12. Turn on the main power switch.
- 13. Initialize the NVRAM (SP5801-001) and HDD unit (SP5832-001) with SP mode.
- 14. The user must enable the HDD encryption unit with a user tool.

More about HDD Encryption Unit (D377)

Overview

The HDD Encryption unit encodes user data and machine settings to prevent this data from being stolen if somebody steals the hard disk. To activate this unit, an administrator must enable the unit with the user mode after installation by a customer engineer. Also, if "Administrator Authentication Management" is not turned on, this function is not displayed in the menu on the LCD.

Encrypted Data

The data to be encrypted are shown below:

User Data in the HDD	
 Address book data*² User authentication data Stored document data Temporary data on the HDD 	 Security log data*² Network I/F setting data*¹ User mode setting data*²

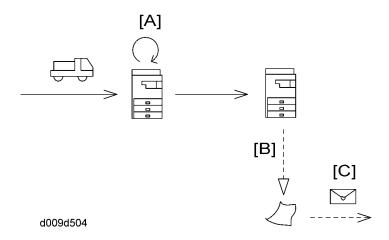
Machine Data in the NVRAM

Machine settings data*1

At installation, an administrator can choose one of three settings to determine what happens to the data that is already in the NVRAM and HDD unit.

- 1. "File System Data Only" encrypts the items indicated with *1 and *2 in the table above and deletes other data.
- 2. "Format All Data" encrypts the item indicated with *1 in the table above and deletes other data.
- 3. "All Data" encrypts all data in the table above.

Procedure Flow

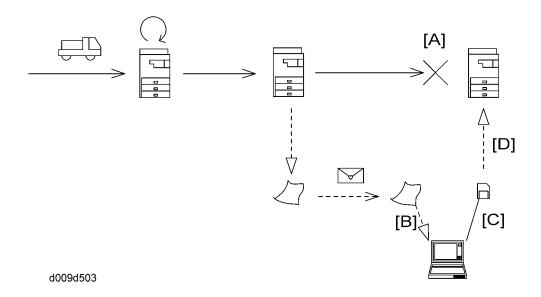


[A]: The CE (customer engineer) installs the unit [A], then an administrator uses the activating function. The administrator prints out the encryption key [B]. The administrator keeps the encryption key information [C] in a safe place.

Encryption Key

After this unit is installed and activated, an encryption key is printed out, and stored in a flash memory chip on the controller board. The encryption key is also copied to each device (NVRAM, HDD) to be encoded by this unit. The printed encryption key must be safeguarded by the administrator. The customer engineer must not see or ask for the key.

Encryption Key Restoration



If the controller board becomes defective [A] and needs to be replaced, "Encryption key restoring" is required in order to use the data on the NVRAM and HDD.

- This is because this encryption function works properly only when the keys in the controller board, NVRAM and HDD match.
- SC858, 859 or 878 occurs if there is a problem with restoring or updating the encryption key. (For details of how to update the encryption key, refer to the Operating Instructions.)
- The customer engineer then asks an administrator to input the encryption key [B] into an SD card [C].
- Encryption key restoration is completed [D] after installation (by the CE) and activation by the administrator.

Data Overwrite Security Unit (D362)

Accessory Check

Check the accessories and their quantities against the table below.

No	Description	Quantity
1	Data Overwrite Security SD Card	1
2	Operating Instructions CD-ROM	1
3	Comments Sheet (17 languages)	2

Before You Begin

- 1. Confirm that the Data Overwrite Security unit SD card is the correct type for the machine. The correct type for this machine is "Type I".
- 2. Make sure that the following features have been set up:
 - · Supervisor login password
 - Administrator login name
 - Administrator login password



- These settings must be set up by the customer before the DOS option can be installed.
- 3. Confirm that "Admin. Authentication" is on:

[User Tools]>"System Settings">"Administrator Tools">"Administrator Authentication Management">
"Admin. Authentication"> "On"

If this setting is "Off" tell the customer that this setting must be "On" before you can do the installation procedure.

4. Confirm that "Administrator Tools" is selected and enabled:

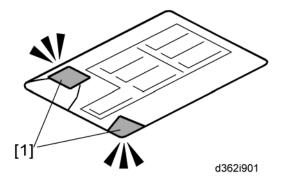
[User Tools]>"System Settings">"Administrator Tools">"Administrator Authentication Management">
"Available Settings

If this setting is not selected tell the customer that this setting must be selected before you can do the installation procedure.



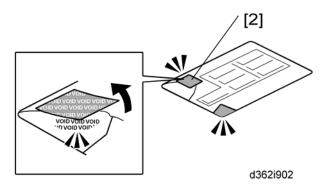
• "Available Settings" is not displayed until Step 2 has been done.

Seal Check and Removal



- 1. Check the box seals [1] on each corner of the box.
 - Make sure that a tape is attached to each corner.

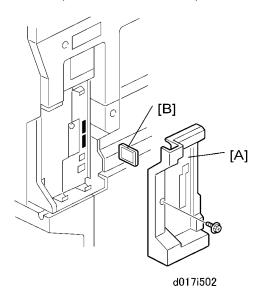
- The surfaces of the tapes must be blank. If you see "VOID" on the tapes, do not install the components in the box.
- 2. If the surfaces of the tapes do not show "VOID", remove them from the corners of the box.



3. When you remove each seal, the "VOID" marks [2] can be seen. In this condition, they cannot be reattached to the box.

DOS Installation

- 1. Switch off the machine.
- 2. Disconnect the network cable.
- 3. Turn the main power switch on.
- 4. Turn the operation switch and main power switch off.

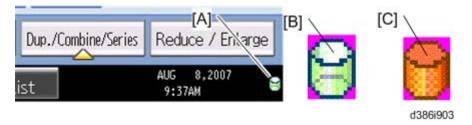


5. Remove the plastic application cover [A] (x1).

- 6. Insert the SD card [B] in SD Slot 1 (upper).
- 7. Reconnect the network cable, if the network is connected to the copier.
- 8. Turn the main power switch on.
- 9. Do SP5878-1 (Option Setup Data Overwrite Security) and touch [EXECUTE].
- 10. Go out of the SP mode, turn the operation switch off, then turn the main power switch off.
- 11. Turn the machine power on.
- 12. Make sure the ROM number and firmware version in area [a] of the diagnostic report are the same as those in area [b].
 - [a]: "ROM Number/Firmware Version" "HDD Format Option"
 - [b]: "Loading Program" "GW5a_zoffym"

Diagnostic Report:	"ROM No. / Firmware Version" [a]	"Loading Program" [b]
DataOverwriteSecurity Unit	HDD Format Option: D3775912A / 1.01m	GW5a_zoffym: D3775912A / 1.01m

- 13. Push [User Tools] and select System Settings> Administrator Tools> Auto Erase Memory Setting> On.
- 14. Exit from User Tools mode.



- 15. Check the display and make sure that the overwrite erase icon [A] is displayed.
- 16. Make a Sample Copy.
- 17. Check the overwrite erase icon.
 - The icon [B] changes to [C] when job data is stored in the hard disk.
 - The icon goes back to its usual shape [B] after this function has completed a data overwrite operation to the hard disk.
- 18. Do SP5990-005 (SP print mode Diagnostic Report).
- 19. Look at the report:
 - Under "[ROM No./Firmware Version]" check the number and version number listed for "HDD Format Option".
 - Under "[Loading Program]" check the option number and version number listed for "GW_zoffy".

• These two version numbers should be identical.

20. Exit SP mode.

Browser Unit Type D (D377)

Accessories

Check the accessories and their quantities against the table below.

Description	Qt'y
1. Browser Unit D377 SD Card	1

Installation

This option requires a HDD unit.

1. For models which have the VM card, do the followings:

Browser unit RTB 2
The installation procedure was modified.

• Press "User Tools" button to enter the User Tools mode.



d377i502

• Press "Extended Feature Settings" on the LCD.



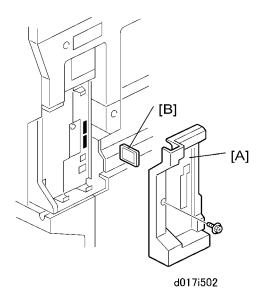
d377i503

• Press "Extended Feature Settings" on the LCD again.



d377i504

- Press "Startup Setting" tab.
- Stop all SDK applications with touching application lines.
- Exit the UP mode, and then turn off the machine.
- Remove the VM card from the SD card slot 2.



- 2. Switch the machine off.
- 3. Remove the plastic application cover [A] ($\mathcal{F} \times 1$).
- 4. Insert the browser SD card [B] into SD card Slot 1 (upper).
- 5. Turn the machine on.
- 6. Push [User Tools]> [Login/Logout].
- 7. Login with the administrator user name and password.
- 8. Touch "Extended Feature Settings" twice.
- 9. Touch "SD Card" then touch the "Browser" line.
- 10. Under "Install to:" touch "Machine HDD"> "Next".
- 11. When you see "Ready to Install", check the information on the screen to confirm your previous selection.
- 12. Touch "OK". You will see "Installing..." then "Completed".
- 13. Touch "Exit" twice to return to the copy screen.
- 14. Remove the SD card from the SD card slot.

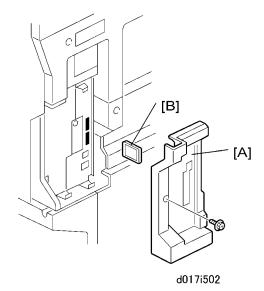
VM Card Type F (D377)

This option is only for D017/D018/D019/D020 models.

Accessories

Check the accessories and their quantities against the table below.

Description	Q'ty
1. VM SD Card	1
2. Decal	1



- 1. Switch the machine off.
- 2. Remove the plastic application cover [A] ($\ensuremath{\widehat{\mathcal{F}}} \times 1$).
- 3. Insert the SD card [B] into SD Slot 2 (lower).



• This SD card must be inserted into Slot 2, the lower slot.

IPDS Unit

Accessories

Check the accessories and their quantities against the table below.

No.	Description	Q'ty
1	IPDS Emulation SD Card	1

No.	Description	Q'ty
2	Decal	1



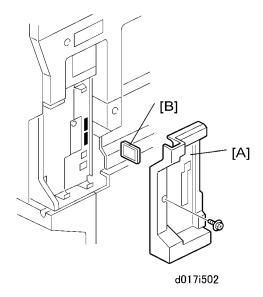
• Only one slot (C1) is available for SD cards that contain applications. If you want to use more than one application, merge all applications into one SD card (SP5873-001).

Installation

- 1. Check the software version.
 - Make sure the following versions are installed:

Firmware Name	Version	Firmware Number
System/Copy (For D018/D020/ D084/D085 models)	V1.13 or later	D0205331K
System/Copy (For D017/D019 models)	V1.13 or later	D0195331K
NCS	V7.14 or later	D0205334B
Websys	V1.09 or later	D0205335B
Printer	V1.03 or later	D0205338D
IPDS	V4.732 or later	D0195336A

- 2. If necessary, update the firmware to the version(s) listed above.
- 3. Turn OFF the main switch.



- 4. Remove the application cover [A] (** x 1).
- 5. Insert the IPDS SD Card [B] into Slot C1.
 - If Slot C1 is occupied, insert it in to Slot C2, then merge this application into the SD card in Slot C1.

☆ Important

- Pushing in the SD Card releases it for removal. Make sure the SD Card is inserted and locked
 in place. If it is partially out of the slot, push it in gently until it locks in place.
- 6. Reattach the cover and turn ON the main switch.
- 7. Do one of the following ("A" or "B") to enable the IPDS function.

A. [Enable the IPDS function via telnet]

- 1. Connect the machine via telnet.
- 2. Execute the following commands:

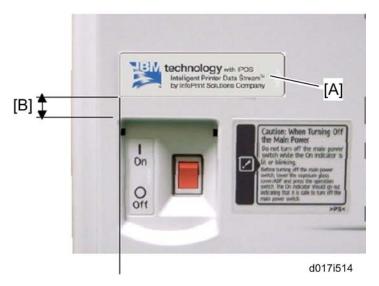
msh> set ipds up

* * * If you want to stop the function.

msh> set ipds down

B. [Enable the IPDS option via WebImageMonitor]

- 1. Log in to WeblmageMonitor.
- 2. Change the setting to enable IPDS.



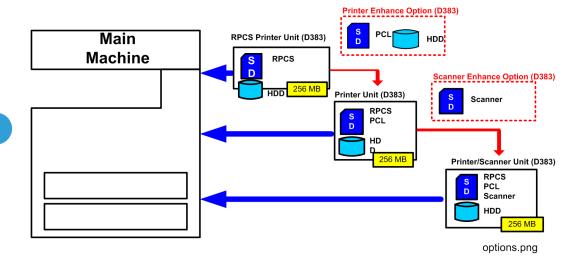
- 8. Attach the decal [A] as shown in the photo above.
 - Line up the left side of the decal with the left edged of the main power switch. ([B]: 10 mm or more)

Printer and P/S Options (only for D017/D019)

Overview

This section describes the installation of the following items:

- RPCS Printer Unit
- Printer Unit
- Printer/Scanner Unit
- 256 MB Memory. Optional memory is required for each unit.
- HDD unit
- Printer Enhance Option
- Scanner Enhance Option



Main Units

The three main units are:

- RPCS Printer Unit Type 3350. For customers who require only basic copying and printing and the RPCS printer language. The HDD is not required but the 256 MB memory must be installed.
- Printer Unit Type 3350. For customers who do not require the extended scanning features but need
 more printing capability (both RPCS and PCL printer languages are provided). The 256 MB memory
 is required.
- Printer/Scanner Unit Type 3350. For customers who require the full range of DS features (advanced scanning and printing features such as "scan-to" solutions, virtual mailboxes, PCL, etc.). The 256 MB memory unit is required.

Separate Options

There are three separate options: HDD, 256 MB memory and PS3.

- HDD. Provided with the following kits: Printer Enhance Option, Printer Unit, and Printer/Scanner Unit.
 Refer to the illustration above. If an HDD has already been installed as a separate item, the HDD unit in the machine does not need to be replaced with the HDD from the kit.
- 256 MB memory. Not provided with any option. However, every unit (RPCS, Printer Unit, P/S unit) requires installation of the 256 MB memory.
- PostScript 3 Unit. The PS3 option can be used with the RPCS Unit, the Printer Unit, or the Printer/ Scanner Unit.

Enhance Options

There are two enhance options:

- Printer Enhance Option Type 3350. Updates the RPCS unit by adding PCL.
- Scanner Enhance Option Type 3350. Updates the RPCS unit or Printer Unit by adding the advanced scanning features.

Kit Contents

Check the accessories and their quantities against the list below and the illustration on the next page. This is a common list for all the kits.

Common Accessory Table

This common accessory table lists all the items of the following units and options for the D017/D019:

• RPCS: RPCS Printer Unit

• PU: Printer Unit

• P/S: Printer/Scanner Unit

• PEO: Printer Enhance Unit

• SEO: Scanner Enhance Unit

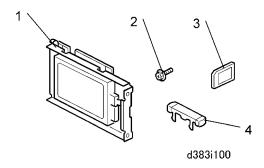
	Description		Kit Contents				
	Description	Q'ty	RPCS	PU	P/S	PEO	SEO
	256 MB Memory*1	1	No	No	No	No	No
1.	HDD*2	1	No	Yes	Yes	Yes	No
2.	Screws	2	No	Yes	Yes	Yes	
3.	SD Card	1	Yes	Yes	Yes	Yes	Yes
_	NA Keytop Set*3	1	Yes	Yes	Yes	Yes	Yes
4.	EU Keytop Set*3	1	Yes	Yes	Yes	Yes	Yes
5.	Ferrite Core	1	No	Yes	Yes	Yes	Yes

^{* 1:} The 256 Memory is a separate option and it is not provided in the kits. However, one memory unit is required for the installation of every print unit.

^{*2:} The HDD can be installed anytime as a separate option. If an HDD unit has already been installed, it does not need to be replaced with the HDD unit from the Printer Enhance Option, Printer Unit, or Printer/Scanner Unit kit.

*3: The number of keytops provided varies:

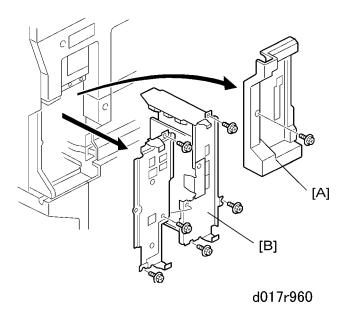
Kit	Keytops					
NII	Сору	Document Server	Printer	Scanner		
RPCS Unit	1	-	1			
Printer Unit	1	1	1			
Printer/Scanner Unit	1	1	1	1		
Printer Enhance Unit	-	1	-			
Scanner Enhance Unit	-	-	-	1		



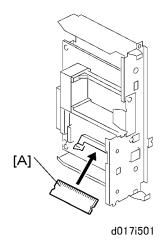
Printer, Printer/Scanner Unit Installation

ACAUTION

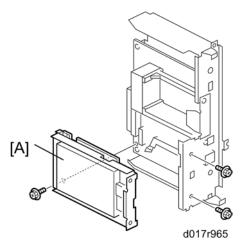
• Turn off the main power switch and disconnect the power supply cord.



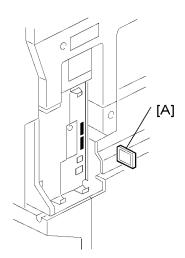
- Remove the application cover [A] (x1).
 Remove the controller board [B] (x3).



3. Install the 256 MB memory [A].

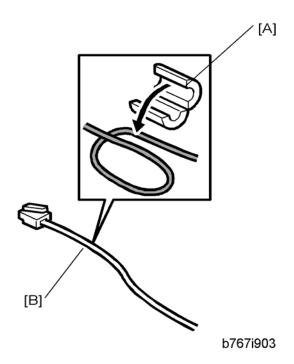


- 4. Attach the HDD unit [A] to the controller board bracket ($^{\square}$ x2, $^{\nearrow}$ x3).
- 5. Reinstall the controller board with the HDD.

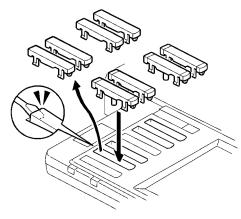


d017i502a

- 6. Insert the SD card [A] in SD card Slot 1 (upper).
- 7. Cycle the machine power off/on.
- 8. Format the HDD with SP5832-1.
- 9. Do SP5853 to copy the preset stamp data from the firmware to the hard disk.
- 10. Do SP5846-040 to copy the address book to the hard disk from the controller board.
- 11. Do SP5846-041 to let the user get access to the address book.
- 12. Reattach the application cover (x1).



- 13. Attach the ferrite core [A] to the LAN cable [B].
- 14. Connect the LAN cable to the "NIC" connection.
- 15. Connect the USB cable to the "USB" connection.



d383i105

16. Remove the 1st, 2nd, 4th, and 5th blank key tops.



- The 3rd blank keytop from the top is reserved for the "Fax" keytop. Do not remove it at this time.
- 17. Replace the blank keytops with the keytops received in the kit from top to bottom:
 - 1st Copy

- 2nd Document Server
- 4th Printer
- 5th Scanner
- 18. Connect the machine power cord and turn the main power switch on.
- 19. Enable the NIB and/or USB function.
 - To enable the NIB function, enter the SP mode and set SP5985-001 (On Board NIC) to "1" (Enable).
 - To enable the USB function, enter the SP mode and set SP5985-002 (On Board USB) to "1" (Enable).
- 20. If there was no HDD in the machine before you installed the Printer Enhance Option, Printer Unit, or Printer/Scanner Unit:
 - Do SP5846 41 so the user can use the address book.
 - Do SP5853 to copy the preset stamp data to the hard disk. Then turn the main power switch off/



- These SPs must be done immediately after installation of an HDD unit in a machine that previously had no HDD.
- The first time the machine power is turned on with the new HDD installed, the system automatically
 takes the address book from the NVRAM and writes it on the new HDD. However, only the system
 administrator can use the new address book on the HDD at this time.
- If you do SP5846 41 immediately after power on, then all users can use the address book.



• It is not necessary to format the new hard disk after installation.

Printer Enhance, Scanner Enhance Options

Accessory Check

Refer to the "Common Accessory Table"

Installation

The installation of the printer enhance option and scanner enhance option is done with SP5873 001 (Application Move).



- If you are going to update the RPCS unit with both the printer and scanner enhance options, the order
 of execution is not important.
- 1. Turn off the copier.
- 2. Remove the cover (Fx1).

- 3. Confirm that the RPCS Unit or Printer Unit SD card is in the upper slot.
- 4. Put the option SD Card (Printer Enhance Option or Scanner Enhance Option) in the lower slot.
- 5. Turn the copier on.
- 6. Go into the SP mode and select SP5873-1.
- 7 Touch "Execute"
- 8. Obey the instructions on the display and touch "Execute" to start.
- 9. When the display tells you copying is completed, touch "Exit", then turn the machine off.
- 10. Remove the option SD card from the lower slot.
- 11. Turn the copier on.
- 12. Go into the User Tools mode and confirm that update was successful.
 - User Tools> System Settings> Administrator Tools> Firmware Version> Next
- 13. Turn the copier off and reattach the SD card slot cover.
- 14. Return the copied SD card to the customer for safekeeping, or tape it to the faceplate of the controller.

To undo an option update

- 1. Turn the main switch off.
- 2. Confirm that the RPCS Unit or Printer Unit SD card is in the upper slot.
- 3. Put the empty SD card (Printer Enhance Option or Scanner Enhance Option D383) in the lower slot.
- 4. Turn the main switch on.
- 5. Go into the SP mode and do SP5873-2 (Undo Exec).
- 6. Obey messages on the operation panel to complete the procedure.
- 7. Turn the main switch off.
- 8. Remove the restored SD card from the lower slot.
- 9. Turn the main switch on.
- 10. Go into the User Tools mode and confirm that undo was successful.
 - User Tools> System Settings> Administrator Tools> Firmware Version> Next
- 11. Turn the copier off again, then reattach the cover.

Important Notes About SD Cards

Here are some basic rules about moving an application to another SD card.

- The authentication data is moved with the application program to the target SD card.
- Once an application has been moved from the original SD card, the original SD card cannot be used unless the application is restored to the SD card with SP5873-2 (Undo Execute).
- SD cards must be stored in a safe location at the customer site The empty SD card serves as proof of purchase and is the only evidence that the customer is licensed to use the application program.

• Before storing the card from which an application has been copied, label it carefully so that you can identify it easily if you need to do the undo procedure later.

If PostScript3 is not used...

Move all applications which the customer wants onto one SD card. The destination card should have the largest amount of space available so it can hold as many other applications as possible.

 The VM Card can be neither merged nor moved to another SD card. This card must be installed in Slot 2 (lower).

SD Card Options	SD Card Size	Module Size
Printer/Scanner Unit Type 3350	32 MB	9.3 MB
RPCS Printer Unit Type 3350	32 MB	6.3 MB
Printer Unit Type 3350	32 MB	8.3 MB
Printer Enhance Option Type 3350	16 MB	4 MB
Scanner Enhance Option Type 3350	16 MB	3 MB
DataOverwriteSecurity Unit Type I	16 MB	4 MB
PostScript3 Unit Type 3350	64 MB	14.6 MB
IPDS Unit Type 3350	32 MB	13.5 MB

If PostScript3 is used...

Move all applications to the PostScript3 SD card.

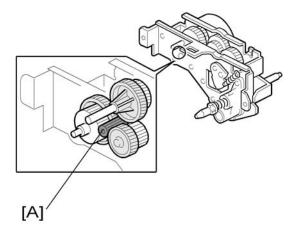
2

3. Preventive Maintenance

PM Tables

See "Appendices" for the following information:

• PM Tables



At every EM lubricate the main motor drive gear [A] with silicone grease G501.

4. Replacement and Adjustment

Special Tools and Lubricants

Special Tools

No.	Part No.	Description	Q'ty	Availability
1	A0069104	Scanner Positioning Pins (4 pins/set)	1	Common - D017/ D018/019/D020
2	A2929500	Test Chart S5S (10 pcs/set)	1	Common - General
3	VSSM9000	Digital Multimeter FLUKE 87	1	Common - General
4	A2309003	Adjustment Cam – Laser Unit	1	Common - D017/ D018/019/D020
5	A2679002	Positioning Pin – Laser Unit	1	Common - D017/ D018/019/D020
6	B6455010	SD-Card	1	Common - General
7	B6456830	USB Reader/Writer	1	Common - General
8	G0219350	Loop-back Connector	1	Common - General

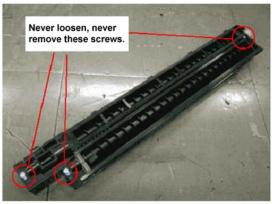
Lubricants

No.	Part No.	Description	Q'ty	Availability
1	A2579300	Grease Barrierta S552R	1	Common - General
2	52039502	Silicone Grease G-501	1	Common - General

PCU (Photoconductor Unit)

The PCU consists of the OPC drum, development unit, charge roller, and cleaning unit. Follow the cautions below when handling a PCU.

- Never touch the drum surface with bare hands. When the drum surface is touched or becomes dirty,
 wipe it with a dry cloth or clean it with wet cotton. Wipe with a dry cloth after cleaning with the cotton.
- Never used alcohol to clean the drum; alcohol dissolves the drum surface.
- Store the PCU in a cool, dry place away from heat.
- Never expose the drum to corrosive gases such as ammonia gas.
- Never shake the used PCU. Doing so may cause toner and/or developer to spill out.
- Dispose of used PCUs in accordance with local regulations.
- Turn off the main power switch and disconnect the power cord before you start any of the procedures
 in this section. To prevent toner leakage, never loosen or remove the screws shown in the illustration
 below.



d017r901

Transfer Roller Unit

- Never touch the transfer roller surface with bare hands.
- Take care not to scratch the transfer roller as the surface is easily damaged.

4

Scanner Unit

- Clean the exposure glass with alcohol or with glass cleaner to reduce the amount of static electricity on the surface of the glass.
- Use a blower brush or a cotton pad with water to clean the mirrors and lens.
- Do not bend or crease the exposure lamp flat cable.
- Do not disassemble the lens unit. Doing so will throw the lens and the copy image out of focus.
- Do not turn any of the CCD positioning screws. Doing so will throw the CCD out of position.

Laser Unit

- Do not loosen the screws that secure the LD drive board to the laser diode casing. Doing so will throw the LD unit out of adjustment.
- Do not adjust the variable resistors on the LD unit, as they are adjusted in the factory.
- The polygon mirror and F-theta mirror are very sensitive to dust.
- Do not touch the glass surface of the polygon mirror motor unit with bare hands.

Fusing Unit

- After installing the fusing thermistor, make sure that it is in contact with the hot roller and that the hot roller can rotate freely.
- Be careful not to damage the edges of the hot roller strippers or their tension springs.
- Do not touch the fusing lamp and rollers with bare hands.
- Make sure that the fusing lamp is positioned correctly and that it does not touch the inner surface of the hot roller.

Paper Feed

- Do not touch the surface of the paper feed roller.
- To avoid paper misfeeds, the side fences and end fences of the paper tray must be positioned correctly
 to align with the actual paper size.

Others

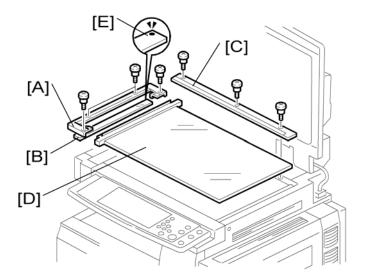
• The toner bottle should be replaced while the main switch is on.

4

• If the optional tray, drum, and optics anti-condensation heaters have been installed, keep the copier power cord plugged in, even when the copier main switch is turned off. This keeps the heaters energized.

Scanner Unit

Exposure Glass

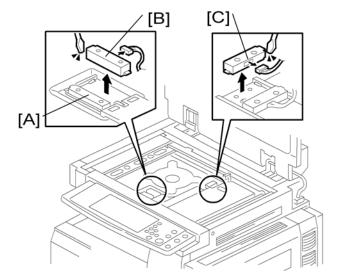


- 1. Glass cover [A] (x 4)
- 2. ARDF exposure glass [B]
- 3. Rear scale [C] (x 3)
- 4. Exposure glass with left scale [D]



• Position the white marker [E] at the rear-left corner and the blue marker at the front-left corner when you reattach the ARDF exposure glass.

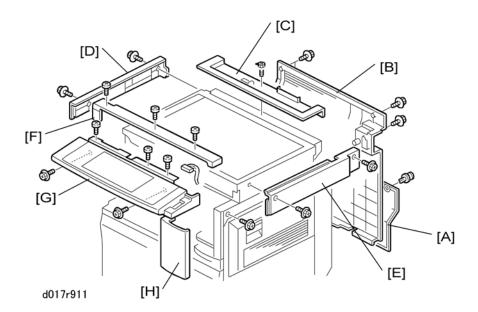
Original Length/Width Sensors



- 1. Exposure glass with left scale (p.151 "Exposure Glass")
- 2. Original length sensor bracket [A] (*x 1, *x 1)
- 3. Original length sensors [B] (snap, 🔎 x 1 each)
- 4. The number of the original length sensors depends on the model; 3 for EU, 2 for others.
- 5. Original width sensors [C] (snap, ₱x 1, ♥ x1 each)

4

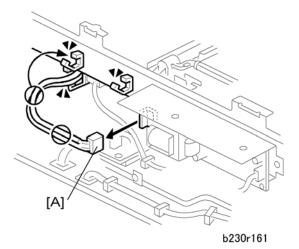
Exposure Lamp



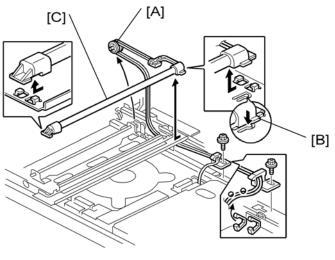
1. Remove:

- [A] Harness cover (Fx1)
- [B] Rear cover (F x4)
- [C] Scanner rear cover (Fx1)
- [D] Scanner left cover (Fx2)
- [E] Scanner right cover (F x2)
- [F] Scanner front cover (Fx3)
- [G] Operation panel (F x5, 🟴 x1)
- [H] Support cover (Tab x1)

- 2. Remove:
 - [A] Rear stay (🖗 x7, 💵 x2)
 - [B] Left stay (F x3)
 - [C] Front stay (F x5)



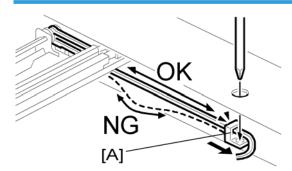
3. Disconnect the connector [A] (x2, x2, x1).



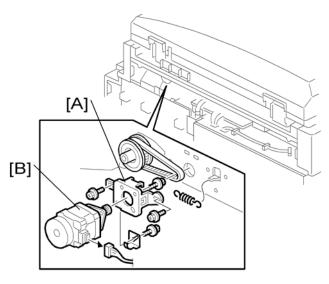
b230r162

- 4. Remove the pulley [A].
- 5. Hold down the snap [B]
- 6. Remove the exposure lamp [C] ($\mbox{$\stackrel{\frown}{\cong}$} x2, \mbox{$\stackrel{\frown}{\Longrightarrow}$} x1, \mbox{$\stackrel{\frown}{\mathscr{E}}$} x1)$

Reassembling



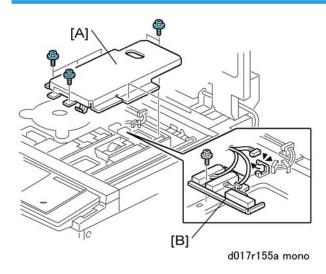
- 1. Run the cable so that there is no slack.
- 2. Slide clamp [A] to adjust the cable slack.



- 1. Rear cover (p.153 "Exposure Lamp")
- 2. Scanner motor assembly [A] (x 2, v x 1, spring x 1)
- 3. Scanner motor [B] (x 2)

Sensor Board Unit (SBU)

Monochrome Scanner Unit (D017/D019)

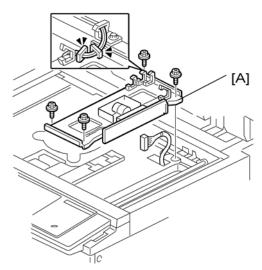


1. Remove:

• Exposure glass (p.151)

[A] SBU cover (Fx3)

[B] Original length sensor bracket (Fx1, 🗐 x1)

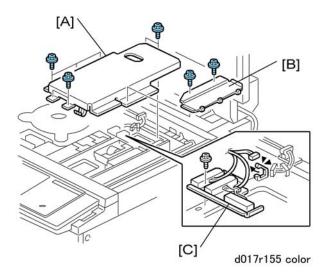


d017r156a mono

2. Remove:

[A] Sensor board unit (x3, x3, x4 x1)

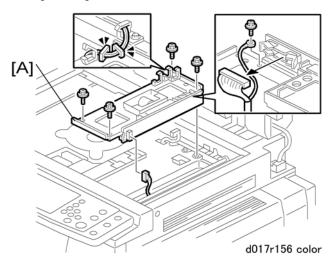
Color Scanner Unit (D018/D020/D084/D085)



1. Remove:

• Exposure glass (p.151)

- [A] SBU cover (Fx3)
- [B] Cover (x2)
- [C] Original length sensor bracket (F x1, 🛱 x1)



2. Remove:

[A] Sensor board unit (F x 4, V x 1, A x 2)

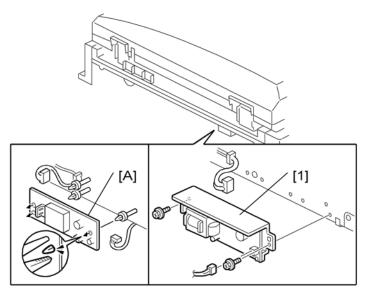
When reassembling

Adjust the following SP modes after you replace the sensor board unit:

- SP4-008 (Sub Scan Mag)
- SP4-010 (Sub Mag Reg.)
- SP4-011 (Main Scan Reg)
- SP4-688 (DF: Density Adjustment). This SP code adjusts the density level if the ID of outputs made in the DF and Platen mode is different.

For more details, see Image Adjustment: Scanning.

Exposure Lamp Stabilizer



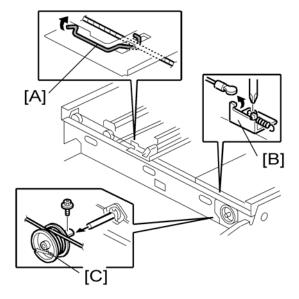
d017r152 mono/color

1. Remove:

• Rear cover (p.153 "Exposure Lamp")

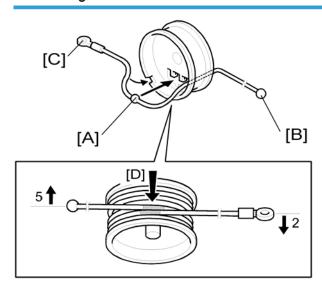
Exposure lamp stabilizer [A] (Standoff x1, 🚅 x 2) (Monochrome Scanner Unit (D017/D019)) -or-

Exposure lamp stabilizer [1] (x 2, substitution x 2) (Color Scanner Unit (D018/D020/D084/D085))



- 1. Exposure glass (p.151)
- 2. Front frame (p.153 "Exposure Lamp")
- 3. Front scanner wire clamp [A]
- 4. Front scanner wire bracket [B] (F x 1)
- 5. Front scanner wire and scanner drive pulley [C] ($\widehat{\!\mathscr{F}} \times 1)$

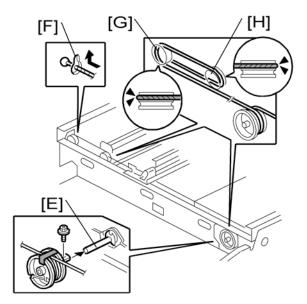
Reinstalling the Front Scanner Wire



- 1. Position the center ball [A] in the middle of the forked holder.
- 2. Pass the right end (with the ball) [B] through the square hole. Pass the left end (with the ring) [C] through the notch.
- 3. Wind the right end counterclockwise (shown from the machine's front) five times. Wind the left end clockwise twice.



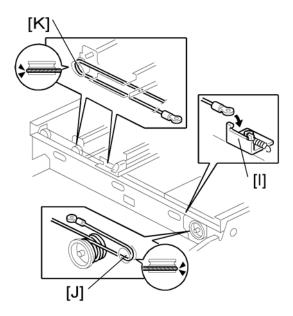
• The two red marks [D] come together when you have done this. Stick the wire to the pulley with tape. This lets you easily handle the assembly at the time of installation.



4. Install the drive pulley on the shaft [E].



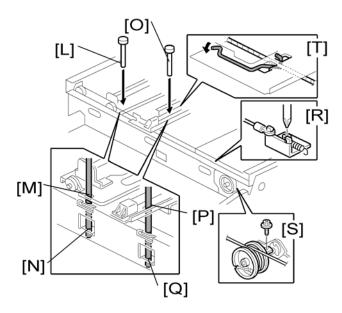
- Do not attach the pulley to the shaft with the screw at this time.
- 5. Insert the left end into the slit [F]. The end should go via the rear track of the left pulley [G] and the rear track of the movable pulley [H].



6. Hook the right end onto the front scanner wire bracket [I]. The end should go via the front track of the right pulley [J] and the front track of the movable pulley [K].



• Do not attach the scanner wire bracket with the screw at this time.



7. Remove the tape from the drive pulley.

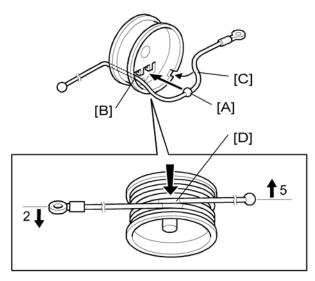
- 8. Insert a scanner-positioning pin [L] through the 2nd carriage hole [M] and the left holes [N] in the front rail. Insert another scanner positioning pin [O] through the 1st carriage hole [P] and the right holes in the front rail [Q].
- 9. Insert two more scanner positioning pins through the holes in the rear rail.
- 10. Screw the drive pulley to the shaft [R].
- 11. Screw the scanner wire bracket to the front rail [S].
- 12. Install the scanner wire clamp [T].
- 13. Pull out the positioning pins.



 Make sure the 1st and 2nd carriages move smoothly after you remove the positioning pins. Do steps 8 through 13 again if they do not.

Rear Scanner Wire

Reinstalling the Rear Scanner Wire



d017r164a

- 1. Position the center ball [A] in the middle of the forked holder.
- 2. Pass the left end (with the ball) [B] through the drive pulley notch.
- 3. Pass the right end (with the ring) [C] through the drive pulley notch.
- 4. Wind the left end [B] clockwise (from the machine front) five times.
- 5. Wind the right end [C] counterclockwise twice.



- The two red marks [D] come together after winding.. Attach the wire to the pulley with tape. This lets you easily handle the assembly at installation.
- 6. Install the drive pulley on the shaft.



- Do not attach the pulley on the shaft with the screw at this time.
- 7. Install the wire.



- The winding of the wire on the three pulleys at the rear of the scanner should be the same as the winding on the three pulleys at the front. This must show as a mirror image.
- At the front of the machine, the side of the drive pulley with the two windings must face the front
 of the machine.
- At the rear of the machine, it must face the rear.

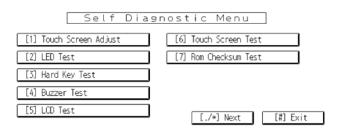
Touch Panel Position Adjustment

The touch panel must be recalibrated if it is not functioning correctly or after replacing these items:

- Operation panel
- Controller board

Do not use items [2] to [9] on the Self-Diagnostic Menu. These items are for design use only.

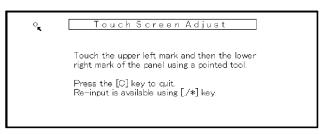
1. Press [Clear], press [1] [9] [9] [3], press 🕏 5 times to open the Self-Diagnostics menu.



b178r548a

- 2. On the touch screen press Touch Screen Adjust (or press [1]).
- 3. Use a pointed (not sharp) tool to press the upper left mark $^{\circ}$.

4



b178r549

- 4. Press the lower right mark when shows.
- 5. Touch a few spots on the touch panel to make sure that the marker + shows exactly where the screen is touched.
- 6. Press Cancel. Then start from Step 2 again if the + mark does not show where the screen is touched.
- 7. Press [#] OK on the screen (or press [#]) when you are finished.
- 8. Touch [#] Exit on the screen to close the Self-Diagnostic menu. Save the calibration settings.

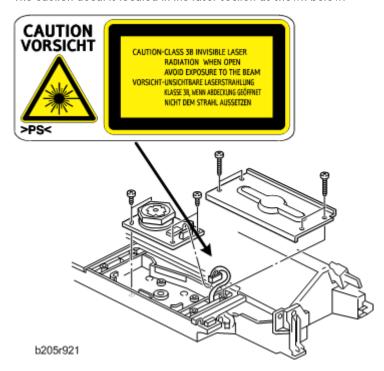
Laser Unit

MARNING

• Turn off the main power switch and disconnect the power cord before you start any of the procedures in this section. Laser beams can seriously damage your eyes.

Caution Decal Locations

The caution decal is located in the laser section as shown below.

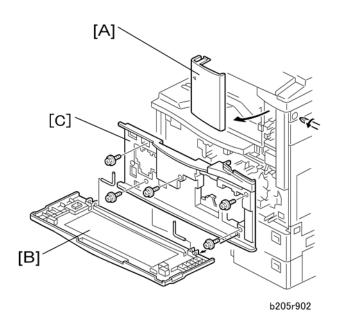


Laser Unit

MARNING

 Turn off the main power switch and disconnect the power cord before you start this procedure in this section. Laser beams can seriously damage your eyes.

4

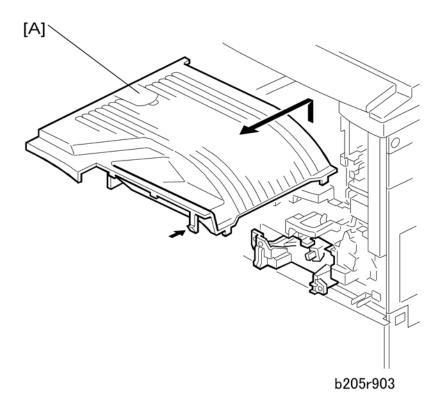


1. Remove:

- 500-Sheet finisher
- Bridge unit
- Optional shift tray (or 1-Bin tray)

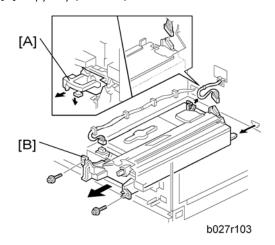
2. Remove:

- [A] Upper front cover (Fx1, Hook x1)
- [B] Front cover (Pins x2)
- [C] Inner cover (x5)



3. Remove:

[A] Copy tray (Hook x1)



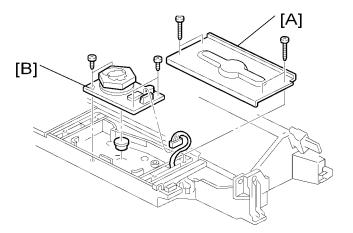
4. Remove:

- [A] Toner bottle
- [B] Laser unit (₱ x2, 🟴 x2)

4

Polygon Mirror Motor

1. Remove the laser unit (p.166).



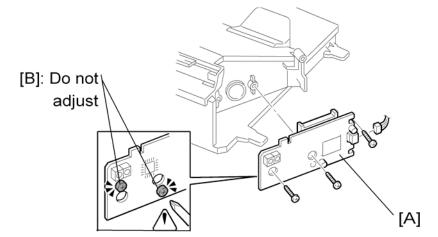
- 2. Remove the heat sink [A] (F x4).
- 3. Replace the polygon mirror motor [B] (*x4, *1).



• When you install the new polygon mirror motor, do not touch the surface of the mirror with bare hands.

LD Unit

1. Remove the laser unit (p.166).



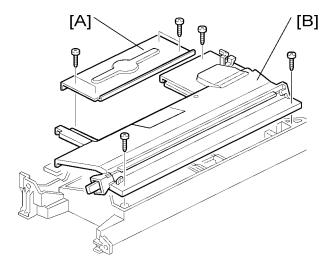
2. Replace the LD unit [A] (x3, x3, x1).



- Do not remove the screws [B].
- Do not touch any variable resistors on the LD unit.

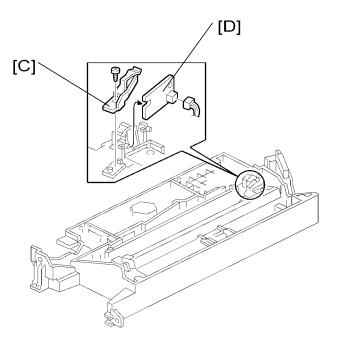
Laser Synchronization Detector

1. Remove the laser unit (p.166).



- 2. Remove the heat sink [A] (*x4).
- 3. Remove the laser unit cover [B] (*\beta x3).

4

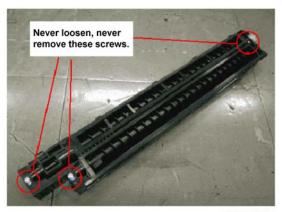


- 4. Remove the bracket [C] (\nearrow x1).
- 5. Replace the laser synchronization detector [D] (\mathscr{F} x 1).

Photoconductor Unit (PCU)

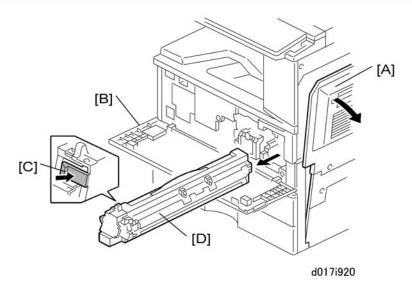
ACAUTION

Turn off the main power switch and disconnect the power cord before you start any of the procedures
in this section. To prevent toner leakage, never loosen or remove the screws shown in the illustration
below.



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PCU Removal

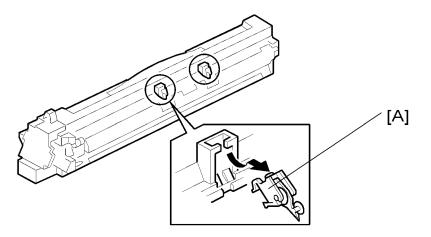


- 1. Open the right cover [A] and front cover [B].
- 2. Pull the PCU [D] out a small distance while you push the release lever [C], then remove the PCU.



• Do not touch the drum surface with bare hands.

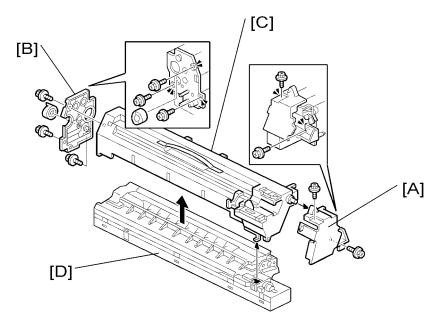
Pick-off Pawls



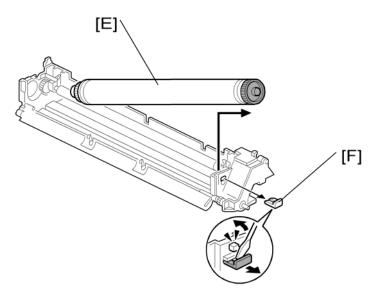
- 1. Remove the PCU. (p.172)
- 2. Hold the pawl [A] by its sides, pull it down and slowly twist it away from the PCU.

OPC Drum

1. Remove the PCU. (p.172)



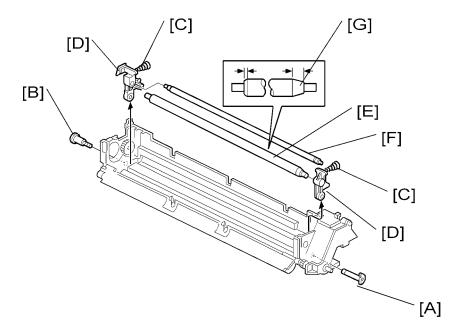
- 2. Front cover [A] (x2)
- 3. Rear cover [B] (x3, Coupling x1)
- 4. Top part [C]
- 5. Bottom part [D]



6. Drum [E] (White clip x1 [F])

Charge Roller, Cleaning Roller

- 1. Remove the PCU. (p.172)
- 2. Remove the OPC drum. (p.173)



- 3. Front stud [A]
- 4. Rear shoulder screw [B] (Fx1)
- 5. Release the front and rear springs [C].
- 6. Remove the roller assembly [D] (Springs x2, Arms x2, Rollers x2)
- 7. Charge roller [E]
- 8. Cleaning roller [F]

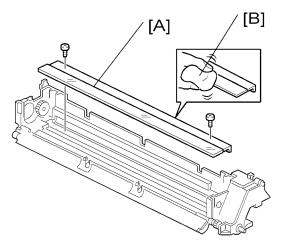
Re-installation: Charge Roller

- Put the end of the charge roller with the wide bevel [G] at the front of the PCU.
- The ends of the cleaning roller [F] are the same (put either end at the front).
- Make sure that the front stud of the roller assembly is put in the correct position.
- Install the front stud before you tighten the rear shoulder screw. Make sure that the head of the stud is put in the correct position.

Cleaning Blade

1. Remove the PCU. (p.172)

- 2. Remove the OPC drum. (p.173)
- 3. Remove the charge roller and cleaning roller. (p.175)



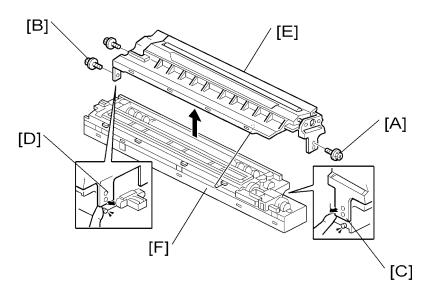
4. Cleaning blade [A] (Fx2)

Reinstallation: Cleaning Blade

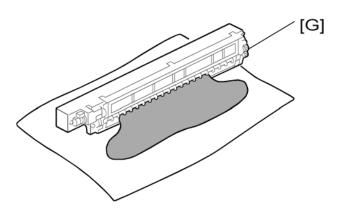
- To prevent damage to the new cleaning blade and OPC drum, apply some toner to the edge of the new blade [B].
- Install the new blade. Remove some toner from the edge of the old blade with your finger, and apply it evenly along the full length of the new blade.

Developer

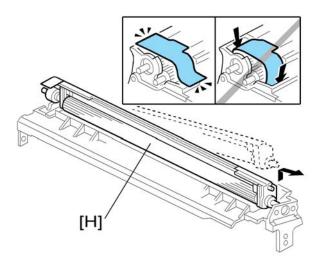
- 1. Spread the vinyl sheet provided with the developer kit on a flat surface.
- 2. Separate the top and bottom parts of the PCU. (p.173 "OPC Drum")
- 3. Set the bottom on the vinyl sheet.



- 4. Remove the front screw [A] (*x1)
- 5. Remove the rear screws [B] (Fx2).
- 6. Release the front tab [C].
- 7. Release the rear tab [D].
- 8. Separate the top [E] and bottom [F] of the development unit.



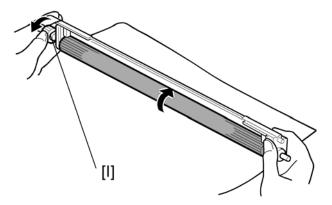
9. Turn the gears [G] to remove the developer from the bottom half.



10. Remove the development roller [H] from the development unit.



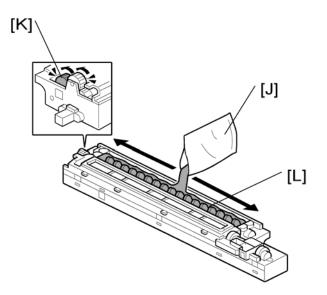
• At reinstallation, make sure that the mylar is positioned as shown.



- 11. Turn the development roller gear [1] to remove toner from around the development roller.
- 12. Assemble the development unit.



• Dispose of the used developer according to the local laws and regulations regarding the disposal of such items.



- 13. Open the developer pack [J]
- 14. While turning the black gear [K], slowly move the pack left and right and pour half of the developer over the auger [L].
- 15. Continue to rotate the black gear until the developer is level.

While continuing to turn the black gear, slowly move the pack left and right and pour the remaining half of the developer over the augur until the developer is level.

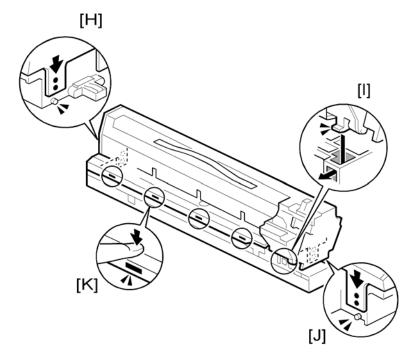


- Be careful. Do not spill developer on the gears or sponges.
- If you accidentally spill developer on the gears or sponges, remove it with a magnet or the tip of a magnetized screwdriver.

PCU Reassembly

Reassemble the PCU in this order:

- 4
- 1. Connect the pawl [A]
- 2. Frame pawls [B], front and rear
- 3. Set the rear cover and front cover [C]
 - Never touch the lever [D] until after the top screw has been fastened.
- 4. Screws (x3), coupling x1 [E]
 - Never press down on the top of the PCU when you reattach the rear or front cover.
- 5. Lower screw (x1) [F]
 - Always install the lower screw first to maintain the correct gap between the rollers.
- 6. Top screw (x1) [G]
 - Lift and lower the lever [D] to make sure that the shutter opens fully and operates smoothly.



- 7. Make sure that all of the holes and tabs on are engaged at [H], [I], [J], and [K]. Then push down to lock the tabs on the front and rear end of the PCU.
- 8. Make sure that the holes for the screws on the front and rear end of the PCU are aligned correctly. If the holes are not aligned correctly, make sure that the tabs at the front, rear, and left side of the PCU are engaged correctly.

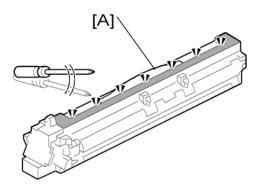
After Replacement of PCU Components

Do this procedure after you replace the PCU components and developer.

- 1. Assemble the PCU and install it in the machine.
- 2. Turn the machine on.
- 3. If you replaced developer, go into the SP mode and do SP2801 (Developer Initialization).
- 4. Make 5 sample copies.
- 5. Check the copies.
 - If the copies are clean (no black dots), the replacement is completed.

-or-

- If you see black dots of toner that fell on the copies, go to the next step.
- 6. Remove the PCU from the machine.



- 7. Lightly tap the top of the PCU [A] with a screwdriver at 8 locations. These locations must be at equal intervals. Tap 2 or 3 times at each location, to make the toner fall into the development section.
- 8. Install the PCU in the machine.
- 9. Turn the machine on, and close the front door. After the machine turns the development roller for 10 seconds, go to the next step.
- 10. Open and close the door two more times. The total rotation time is 30 seconds.
- 11. If you replaced PCU components:
 - If A4/8_{1/2}" x11" paper is installed, make 4 copies or prints.
 - If A3/11" x 17" paper is installed, make 2 copies or prints.
 - To make solid black prints, use SP2902 Pattern #8.



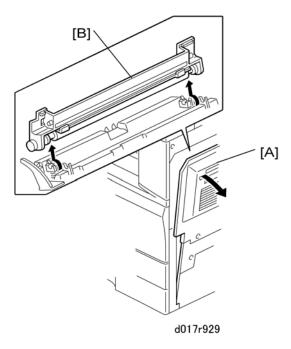
• This step is not necessary if only the developer was replaced.

Transfer Unit

ACAUTION

• Turn off the main power switch and disconnect the power cord before you start any of the procedures in this section.

Transfer Roller Unit

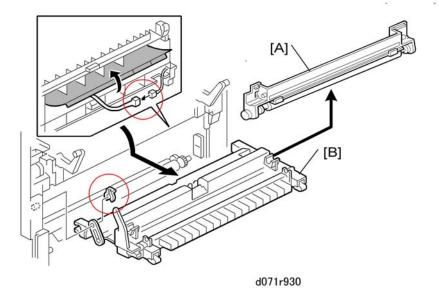


- 1. Open the right cover [A].
- 2. Remove the transfer roller unit [B] (Hook x1).

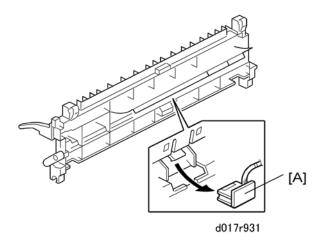


• Do not touch the transfer roller surface.





- 1. Open the right cover.
- 2. Remove:
 - [A] Transfer roller
 - [B] Roller guide (Ѿx1, 🕮 x1)



- 3. Remove:
 - [A] Image density sensor (🕮 x1).
- 4. Initialize the new sensor with SP2935.

Fusing/Exit

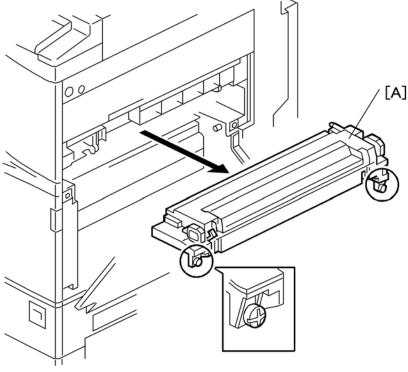
ACAUTION

• Turn off the main power switch and disconnect the power cord before you start any of the procedures in this section.

Fusing Unit

ACAUTION

• Allow time for the unit to cool before doing the following procedure.

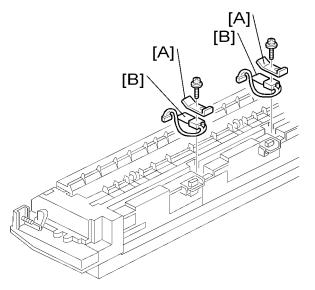


b205r932

- 1. Release the duplex unit, if it has been installed, and open the right cover.
- 2. Remove the fusing unit [A] (Fx2).

Thermistors

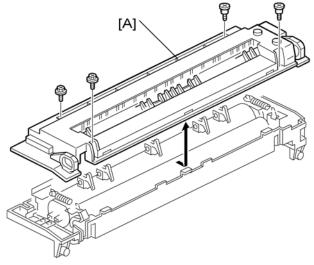
1. Remove the fusing unit. (p.185)



- 2. Remove the plates [A] (x1 each).
- 3. Replace the thermistors [B] (🕮 x1).

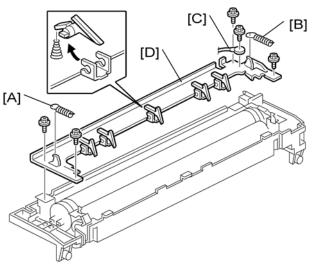
Thermostats

1. Remove the fusing unit. (p.185)



d017r503

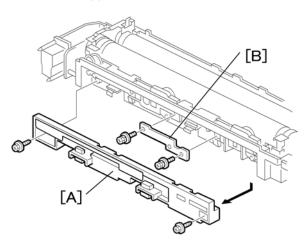
2. Remove the fusing upper cover [A] (** x4).



d017r504

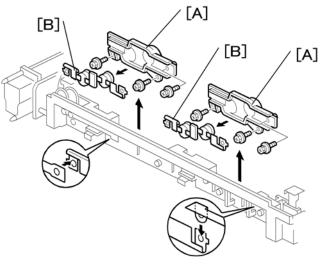
3. Remove:

- [A] Pressure spring
- [B] Pressure spring
- [C] Ground wire (Fx1)
- [D] Hot roller stripper bracket (F x4).



b205r936

- [A] Thermostat cover (Tap 🖗 x2).
- [B] Plate (x2 , spring washers).

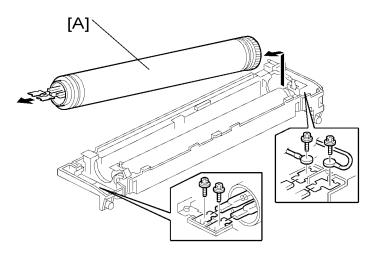


b205r937

- 5. Remove:
 - [A] Thermostat holders x2 (*F x3 each.).
 - [B] Thermostats x4

Hot Roller and Fusing Lamps

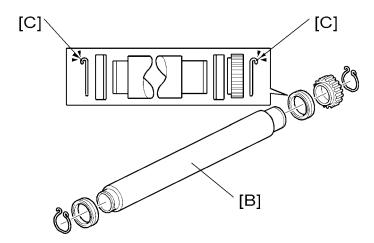
- 1. Remove the fusing unit. (p.185)
- 2. Remove these parts: (p.186 "Thermostats").
 - Fusing upper cover.
 - Pressure springs.
 - Hot roller stripper bracket.



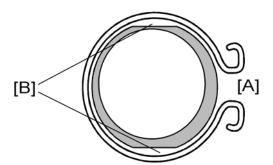
3. Remove the fusing lamps ($\ensuremath{\mathscr{F}}$ x4) and hot roller assembly [A].



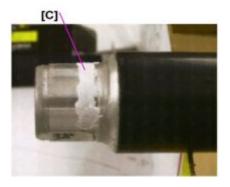
• Do not touch the surface of the fusing lamp with bare hands.



- 4. Replace the hot roller [B] (C-rings x2, Gear x1, Bushings x2).
 - When you reattach the C-rings, the flat sides must face the bearing/roller. (The little hooks [C] must face away from the bearing/roller).



1. At the rear (gear-side), attach the C-ring so that the opening [A] is 90 degrees from the D-cut sections [B] of the fusing roller.



2. Apply enough grease at [C] so the metal surface is not visible.



3. The grease should be visible after reattaching the bushing [D].

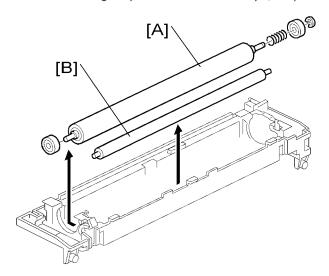
Important

- Before you install the new hot roller, peel off 3 cm (1 inch) from both ends of the protective sheet on the new roller.
- Do not touch the surface of the rollers.
- When reinstalling the fusing lamp, secure the front screws first.

• Be careful not to damage the surface of the hot roller.

Pressure Roller/Cleaning Roller

1. Remove the fusing lamp and hot roller assembly. (p.188 "Hot Roller and Fusing Lamps")



- 2. Replace the pressure roller [A] (© x1, Bushings x2, Spring x1).
- 3. Replace the cleaning roller [B].



- Apply grease (Barrierta) to the inner surface of the bushing for the pressure roller.
- Do not touch the surface of the rollers.

- 1. Remove the front upper cover [A] (*x1, Peg x1).
- 2. Remove the exit cover [B].



• If the optional one-bin tray unit and/or interchange unit have been installed, remove them.

d017r601

- 3. Remove the cover [C].
- 4. Replace the exit sensor [D] (x1).
- 5. Replace the overflow sensor [E] (x1).

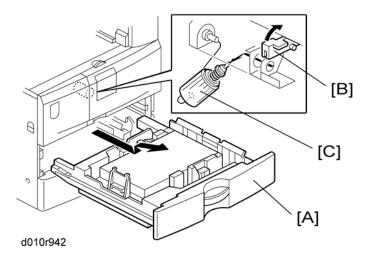
4

Paper Feed

ACAUTION

• Turn off the main power switch and disconnect the power cord before you start any of the procedures in this section.

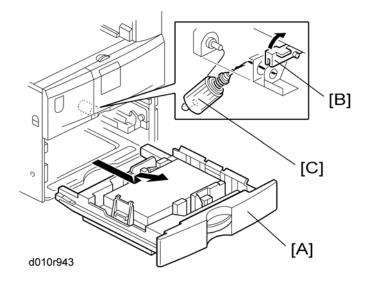
Feed Roller: Tray 1



- 1. Pull out the paper tray 1 [A].
- 2. Pull up the stopper [B].
- 3. Paper feed roller [C]



- Do not touch the roller surface with bare hands.
- After reinstalling the feed roller, reset [B] to its former position.

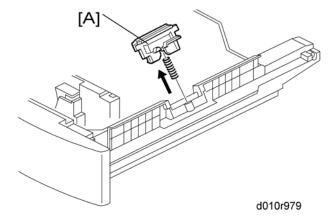


- 1. Pull out the paper tray 1 and 2 [A].
- 2. Pull up the stopper [B].
- 3. Paper feed roller [C]



- Do not touch the roller surface with bare hands.
- After reinstalling the feed roller, reset the stopper [B].

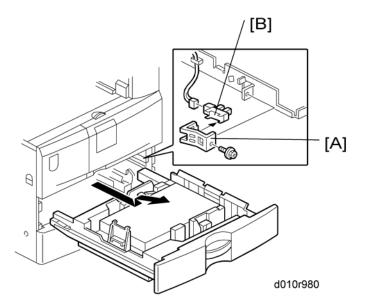
Friction Pad



1. Pull out the paper tray.

2. Friction pad [A] (spring x 1)

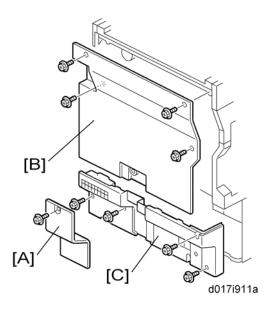
Paper End Sensor



- 1. Paper cassette
- 2. Bracket [A] (x 1, x 1)
- 3. Paper end sensor [B] (Hook x1)

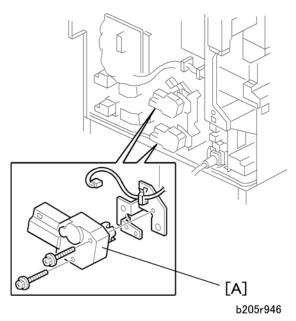
Paper Tray Lift Motors

1. Remove the paper tray.



2. Remove:

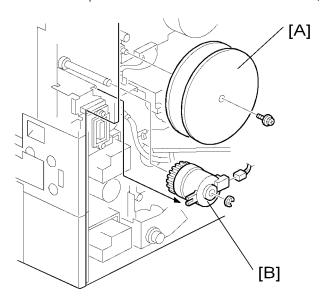
- [A] Connector cover ($\ensuremath{\rlap{/}{\mathcal F}} \times 1$) and disconnect the cable.
- [B] Rear cover (F x4).
- [C] Lower rear cover (Fx4).



3. Replace the paper lift motors [A] (x2 each, x1 each).

Registration Clutch

- 1. Remove the connector cover and the rear cover. (p.195 "Paper Tray Lift Motors")
- 2. Remove the duplex connector cover and lower rear cover. (p.195 "Paper Tray Lift Motors")

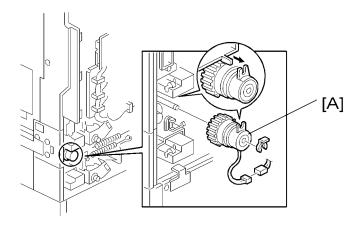


- 3. Remove the fly wheels [A] (Fx1).
- 4. Remove the registration clutch [B] (© x1, 🔎 x1).

Paper Feed Clutches

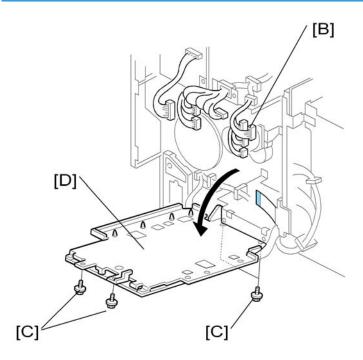
Lower Paper Feed Clutch

- 1. Remove the rear cover.
- 2. Remove the lower rear cover.



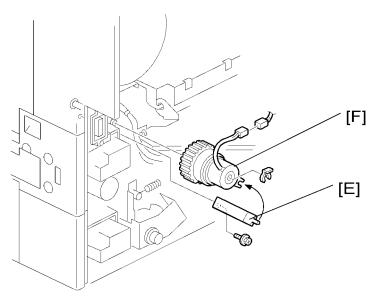
3. Replace the lower paper feed clutch [A] ((() x 1, (1) x 1).

Upper Paper Feed Clutch



- 1. Disconnect the connectors [B] for the BCU board as shown (\mathbb{I} x15).
- 2. Remove 4 screws [C] securing the BCU board bracket then swing down the BCU board bracket [D].

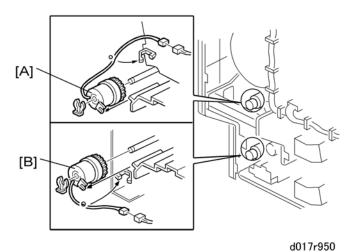
4



- 3. Remove the bracket [E] (x1).
- 4. Replace the upper paper feed clutch [F] (\heartsuit x 1, \checkmark x 1).

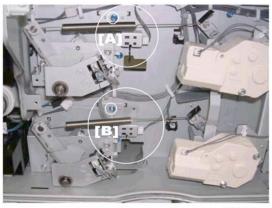
Relay Clutches

- 1. Remove:
 - Rear connector cover (*\bar{P} x 1)
 - Rear cover (Fx4)
 - Lower rear cover (* x4)



- [A] Upper relay clutch ((() x1, (2) x1, (1) x1)
- [B] Lower relay clutch (♥ x1, ♣ x1, ♥ x1)

Upper/Lower Paper Size Sensors



d017r952

- 1. Pull out the paper tray 1 and/or 2.
- 2. Remove:
 - Relay connector cover (x1, x1)
 - Rear upper cover (x4)
 - Rear lower cover (x4)
- 3. Remove:

[A] Tray 1 paper size sensor bracket (Fx 1)

• Tray paper size sensor (🕮 x 1, Pawls x4)

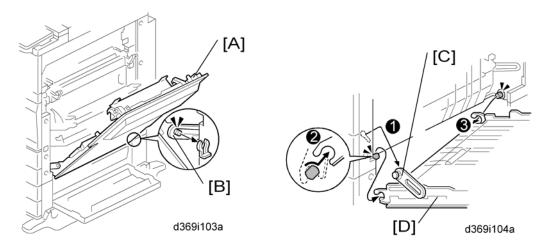
-or-

[B] Tray 1 paper size sensor bracket (Fx 1)

• Tray paper size sensor (🗐 x 1, Pawls x4)

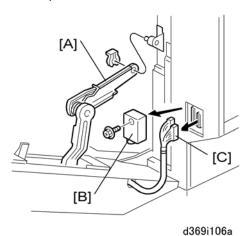
Registration Sensor

1. Open the right cover of the optional paper tray unit or LCT.

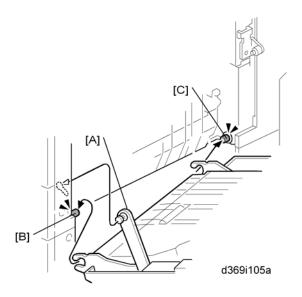


- 2. Open the right cover [A].
- 3. Release the rear link [B] from the right cover ($(x) \times 1$).
- 4. Release the front link [C] from the mainframe.
- 5. Remove the right cover [D].

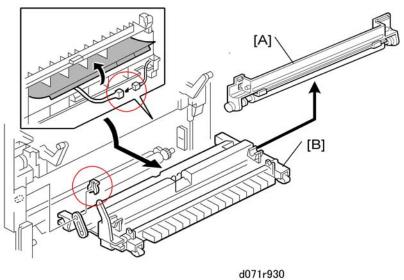
If the duplex unit is installed:



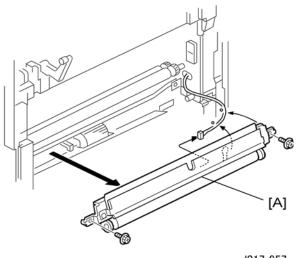
- Free!
- 6. Disconnect the right hinge [A] (🖾 x1)
- 7. Remove the connector cap [B] (x1).
- 8. Disconnect the duplex unit harness [C] (🗐 x1).



9. Disconnect the arm [A], then disconnect the snap hinges [B] and [C].

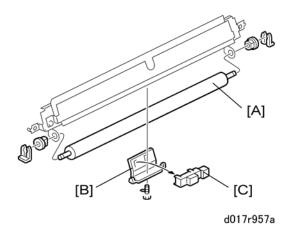


- [A] Transfer roller
- [B] Transfer roller guide (Ѿ x 1, 🕮 x 1)

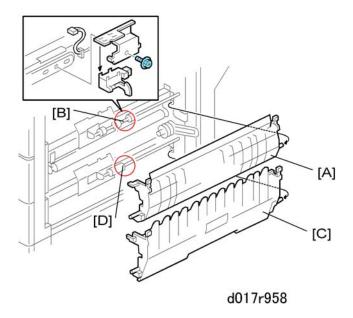


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11. Remove the guide plate [A] (\mathscr{F} x2, $\overset{\frown}{\bowtie}$ x2, $\overset{\frown}{\bowtie}$ x1)



- [A] Registration roller (🖾 x2, Bushings x2)
- [B] Registration sensor bracket (Fx1)
- [C] Registration sensor (Pawls x4)



1. Remove:

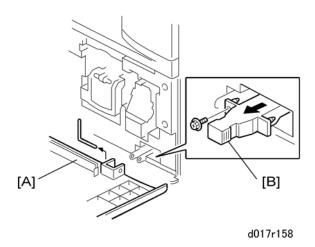
• Right cover

-or-

• Duplex unit if it is installed (See the previous section)

- [A] Upper cover
- [B] Upper relay sensor (Bracket F x 1, 🕮 x 1, Pawls x 4)
- [C] Lower cover
- [D] Lower relay sensor (Bracket F x 1, 🔎 x 1, Pawls x 4)

Dust Collection Bin



- 1. Remove:
 - [A] Front door (L-brackets x2)
 - [B] Dust collection bin (F x1)
- 2. Tap the dust collection bin above a sheet of paper, to remove the paper dust.
- 3. Use a dry cloth to clean the inside of the dust collection bin.

PCBs and Other Items

ACAUTION

Turn off the main power switch and disconnect the power cord before you start any of the procedures
in this section.

Controller Board



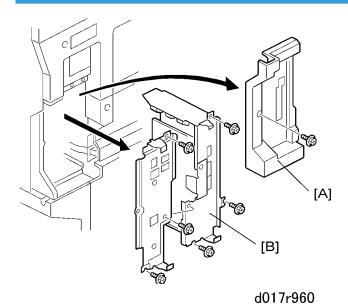
If you intend to replace the NVRAMs, upload their contents to an SD card with SP5824 before you
remove them and replace them with new ones. Never remove the NVRAMs until after you have
uploaded their contents.

Before replacing the controller board in the model without HDD

When you replace the controller board in a model without a HDD, address book data can be copied from an old controller board to a new controller board using an SD card.

Copy the address book data to an SD card from the flash ROM on the controller board with SP5846-051 if possible.

Replacement Procedure

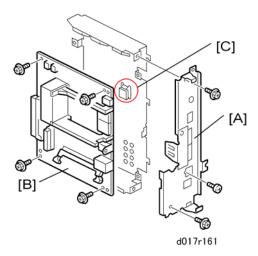


4

1. Remove:

- [A] Controller plastic cover (F x1)
- [B] FCU faceplate (F x3)
- [C] Controller board unit (F x3)

Before touching the controller board, always touch a metal surface to discharge any static that
has accumulated on your hands.

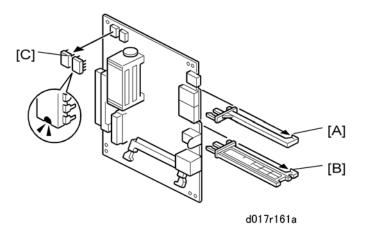


2. Remove:

- [A] Faceplate (Fx3)
- [B] Controller board (F x4)

☆ Important

Make sure that the thermal conductive sheet [C] is attached to the bracket after replacement of
this procedure.



- 3. Remove:
 - [A] Upper brace
 - [B] Lower brace
 - [C] NVRAM x2
- 4. Remove the NVRAMs from the old board and install them on the new board.



- The NVRAM chips must always be replaced as a pair.
- 5. If you have replaced the controller board, set the DIP switches on the new controller board to the same settings as the old board.

After installing the controller board

- For a model without a HDD, do SP5846-052 to copy back the address book to the flash ROM on the controller board from the SD card to which you have already copied the address book data if possible.
- For a model in which the HDD encryption unit has been installed, restoring the encryption key is required. Refer to "Recovery from a Device Problem" in the installation procedure for HDD Encryption Unit.
- 3. Turn the main power switch off/on.

NVRAM

The following data stored in the NVRAM will not be saved to the SD card when you perform an NVRAM data upload (SP5824).

- Total counter value
- C/O, P/O counter values

- Duplex, A3/DLT/Over 420mm, Stapler, and Scanner counter values
- Engine SP data

Therefore, whenever you perform an NVRAM upload/download, make sure to print out the SP Data List before you perform SP5801-001 (Memory Clear: All Clear) or SP5801-002 (Memory Clear: Engine).

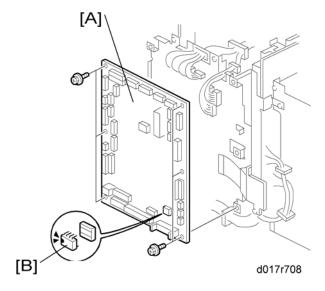
- 1. Do SP5990 001 to print the SMC report.
- 2. Stop all SDK applications if the VM card is installed (p.118 "HDD Encryption Unit").
- 3. Turn off the main switch.
- 4. Remove the controller board cover (F x1).
- 5. Remove the VM card from SD card slot C2 if it is installed.
- 6. Put the SD card in SD card slot C2.
- 7. Turn on the main switch.
- 8. Do SP5824.
- 9. Touch "Execute" to start to upload the NVRAM data.
- 10. Turn off the main switch and remove the SD card.
- 11. Remove the controller board (x1). (p.206)
- 12. Remove the NVRAM (x2) and replace them with the new chips. (p.206)



- Both NVRAM chips must be replaced.
- 13. Install the controller board.
- 14. Put the SD card with the NVRAM data in SD card slot C2.
- 15. Turn on the machine.
- 16. Do SP5801 to initialize the new NVRAM.
- 17. To download the NVRAM data from the SD card in C2, do SP5825.
- 18. Touch "Execute" to start to download the NVRAM data.
- 19. Turn off the main switch and remove the SD card.
- 20. Turn on the machine.
- 21. Do SP5990 001 to print another SMC report.
- 22. Compare this new SMC report with the report you printed in Step 1. If any of the SP settings are different, input the SP settings of the first report.
- 23. Do SP5907 and input the brand and model name of the machine for Windows Plug & Play capability.

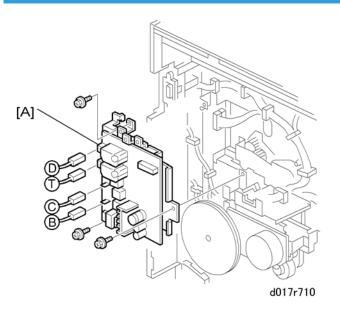


 If the HDD encryption unit has been installed, the HDD encryption unit and encrypted data cannot be recovered. For details, refer to "Recovery from a Device Problem" in the installation procedure of the p.118 "HDD Encryption Unit".



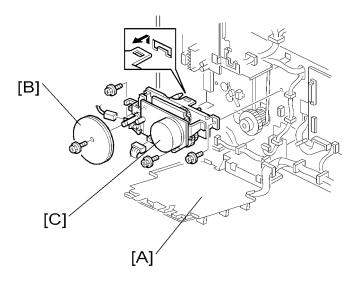
- 1. Remove the rear cover. (p.195 "Paper Tray Lift Motors")
- Remove the BCU board [A] (□ x All, x6).
- 3. Remove the NVRAM [B] from the old board and install it on the new board.
- 4. Set the DIP switches on the new BCU board to the same settings as the old board.

Power Pack



- 1. Remove the rear cover.
- 2. Swing down the BCU board bracket. (p.197 "Paper Feed Clutches")
- 3. Remove the power pack [A] ($\mathbb{P} \times 4$, $\mathscr{F} \times 3$).

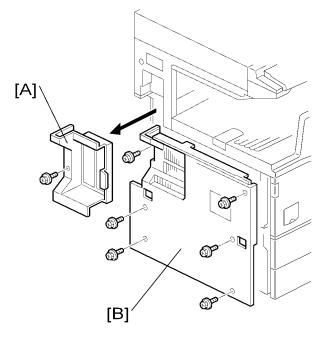
Main Motor



1. Remove the rear cover. (p.195 "Paper Tray Lift Motors")

- 3. Remove the flywheels [B] (\$\mathbb{P} \times 1).
- 4. Replace the main motor [C] (🚅 x2, 🖗 x3).

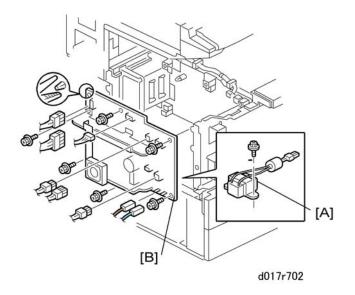
PSU



- 1. Remove the optional finisher if it has been installed.
- 2. Remove the application cover [A] ($\mathscr{F} \times 1$).
- 3. Remove the left cover [B] (\$\hat{P}\$ x6).

4





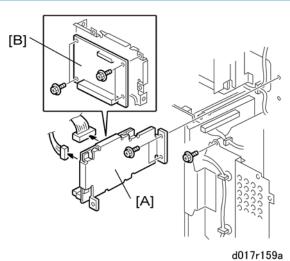
4. Remove:

[A] Transformer (x1) (For the 220 V machine only)

[B] PSU (x all, F x 6, Standoff x 1).

SIO

Monochrome Scanner Unit (D017/D019)



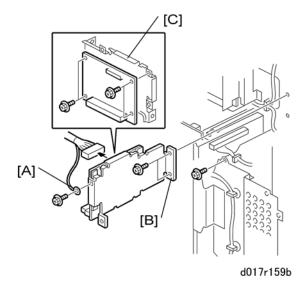
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1. Remove:

• Rear cover (p.195 "Paper Tray Lift Motors")

[B] SIO board (F x4)

Color Scanner Unit (D018/D020/D084/D085)



1. Remove:

• Rear cover (p.195 "Paper Tray Lift Motors")

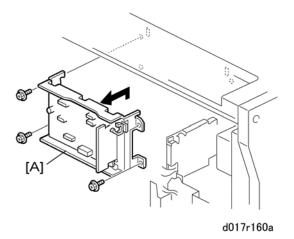
[A] Ground wire, connector (🗗 x 1, 📫 x 1)

[B] SIO bracket (Fx3)

[C] SIO board (🗗 x4)

4

SIU



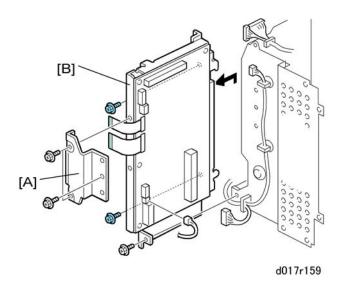
1. Remove:

Rear cover (p.195 "Paper Tray Lift Motors")
 [A] SIU assembly (x4, x7)

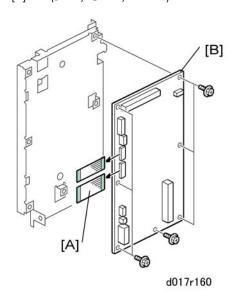
IPU

1. Remove:

- Rear cover (p.195 "Paper Tray Lift Motors")
- Controller board unit (p.206 "Controller Board")
- SIO (p.213)



2. Remove:



3. Remove:

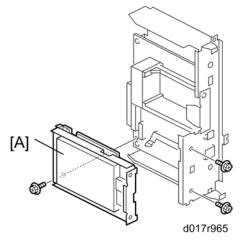
[A] FFC x2

[B] IPU (🗗 x7)

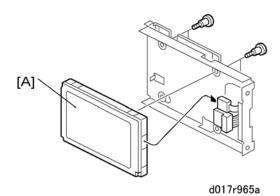
HDD

- 1. Before you replace the HDD:
 - Stop all SDK applications, and then remove it from the machine if the VM card is installed (p.118 "HDD Encryption Unit").
 - Insert an SD card in SD card slot 2 (lower slot).
 - Go into the SP mode.
 - $\bullet~$ Do SP5846 51 to upload the address book data to the SD card.

- If the HDD is damaged, you may not be able to retrieve this data from the HDD.
- 2. Remove the controller board. (p.206)



3. Remove the HDD and bracket [A] (Fx1)



- 4. Remove the old HDD [A] from its bracket (F x4, 🟴 x2).
- 5. Install the new HDD unit.

- 6. Cycle the machine power off/on.
- 7. Format the HDD with SP5832-1.
- 8. Do SP5853 to copy the preset stamp data from the firmware to the hard disk.
- 9. Do SP5846-52 to restore the address book data to the HDD.

After HDD Replacement:

- Never remove a used HDD unit from the work site (even if it is suspected of being damaged) without the consent of the client.
- The HDD must remain with the customer for disposal or safe keeping.
- The HDD may contain proprietary or classified (Confidential, Secret) information. Specifically, the
 HDD contains document server documents and data stored in temporary files created automatically
 during copy job sorting and jam recovery. Such data is stored on the HDD in a special format, so it
 cannot normally be read but it can possibly be recovered with illegal methods.
- If the customer is using the Data Overwrite Security feature, the DOS function must be set up again after replacing the HDD unit.
- If the customer is using the HDD Encryption Unit, the encryption key must be restored after replacing the HDD unit. For details, see the installation procedure for the p.118 "HDD Encryption Unit".

You must do these adjustment(s) after replacing any of the following parts:

Copy Adjustments: Printing/Scanning

- Scanner Wire
- Lens Block/SBU Assembly
- Scanner Drive Motor
- Polygon Mirror Motor
- Paper Side Fence
- Memory All Clear

For more details about accessing SP modes, see Service Tables.

Printing



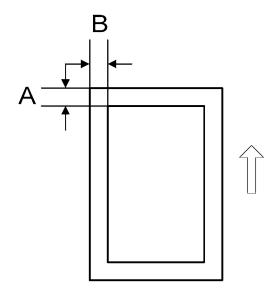
- Make sure the paper is installed correctly in each paper tray before you start these adjustments.
- Use the Trimming Area Pattern (SP2-902, No.10) to print the test pattern for the following procedures.
- Set SP 2-902 to 0 again after completing these printing adjustments.

Registration - Leading Edge/Side-to-Side

- 1. Check the leading edge registration for each paper feed station, and adjust them using SP1-001.
- 2. Check the side-to-side registration for each paper feed station, and adjust them using SP1-002.

Tray	SP mode	Specification
Any paper tray	SP1-001-1	
By-pass feed	SP1-001-2	3 ± 2 mm
Duplex	SP1-001-3	

Tray	SP mode	Specification
1 st paper feed	SP1-002-1	
2nd paper feed	SP1-002-2	
3rd paper feed (Optional PFU tray 1), or LCT	SP1-002-3	
4th paper feed (Optional PFU tray 2)	SP1-002-4	
By-pass feed	SP1-002-5	
Duplex, side 2	SP1-002-6	2 ±1.5 mm



A: Leading Edge Registration

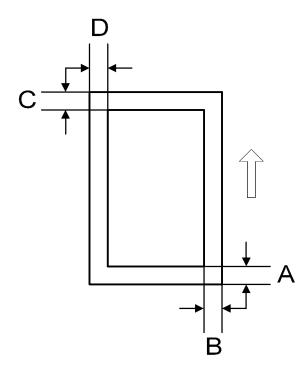
B: Side-to-side Registration

Blank Margin



- If the leading edge/side-to-side registration cannot be adjusted within the specifications, adjust the leading/left side edge blank margin.
- 1. Check the trailing edge and right side edge blank margins, and adjust them using the following SP modes.

	SP mode	Specification
Trailing edge	SP2-101-2/3/4	3 ± 2 mm
Right edge	SP2-101-6	2 +2.5/-1.5 mm
Leading edge	SP2-101-1	3 ± 2 mm
Left edge	SP2-101-5	2 ± 1.5 mm
Trailing edge (duplex copy, 2nd side)	SP2-101-7	2 ± 2 mm
Left edge (duplex copy, 2nd side)	SP2-101-8	2 ± 1.5 mm
Right edge (duplex copy, 2nd side)	SP2-101-9	2 +2.5/-1.5 mm

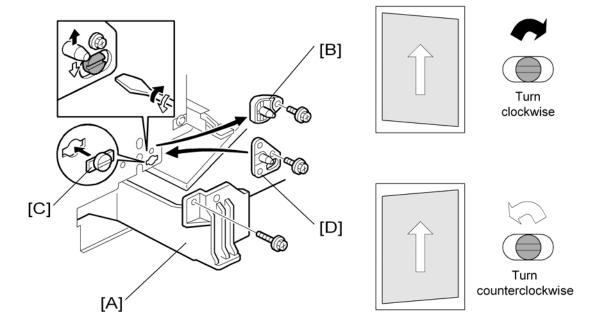


- A: Trailing Edge Blank Margin
- B: Right Edge Blank Margin
- C: Leading Edge Blank Margin
- D: Left Edge Blank Margin

- 1. Print the single-dot grid pattern (SP2-902, no.5).
- 2. Check the magnification, and adjust the magnification using SP2-909 if necessary. The specification is ± 1%.

Parallelogram Image Adjustment

Do the following procedure if a parallelogram is printed while adjusting the printing registration or the printing margin using a trimming area pattern.





- The following procedure should be done after adjusting the side-to-side registration for each paper tray station.
- 1. Check whether the trimming area pattern (SP2-902, No.10) is printed as a parallelogram, as shown. If it is, do the following.
- 2. Remove the laser unit [A] (p.166).
- 3. Remove the bracket [B] (x2).
- 4. Install the adjusting cam [C] (P/N: A2309003).
- 5. Secure the adjustment bracket [D] (P/N A2679002) using the screw which was used for bracket [B]. However, do not tighten the screws at this time.
- 6. Adjusts the laser unit position by turning the adjusting cam. (Refer to the above illustration for the relationship between the image and the cam rotation direction).

- 7. Tighten the adjustment bracket.
- 8. Print the trimming area pattern to check the image. If it is still unsatisfactory, repeat steps 4 to 8.

Scanning

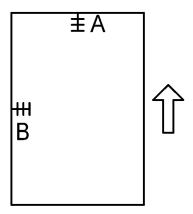


- Before doing the following scanner adjustments, perform or check the printing registration/side-toside adjustment and the blank margin adjustment.
- Use an S5S test chart to perform the following adjustments.

Registration: Platen Mode

- 1. Place the test chart on the exposure glass and make a copy from one of the feed stations.
- 2. Check the leading edge and side-to-side registration, and adjust them using the following SP modes if necessary.

	SP mode
Leading Edge	SP4-010
Side-to-side	SP4-011

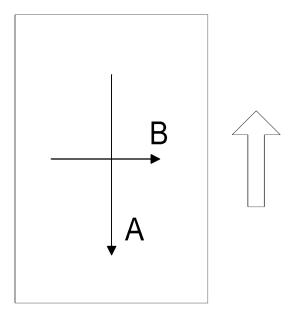


A: Leading Edge Registration

B: Side-to-side Registration



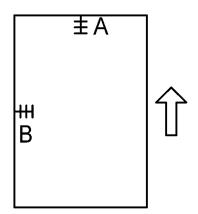
• Use an S5S test chart to do the following adjustment.



- 1. Place the test chart on the exposure glass and make a copy from one of the feed stations.
- 2. Check the magnification ratio. Use SP4-008 (Scanner Sub Scan Magnification) to adjust if necessary. Specification: ±0.9%.

ADF Image Adjustment

Registration



A: Leading Edge Registration

B: Side-to-side Registration



- Make a temporary test chart as shown above using A3/DLT paper.
- 1. Place the temporary test chart on the ADF and make a copy from one of the feed stations.
- 2. Check the registration, and adjust using the following SP modes if necessary.

	SP mode
Side-to-side Registration	SP6-006-1
Leading Edge Registration (Simplex)	SP6-006-2
Trailing Edge Blank Margin	SP6-006-3

Sub Scan Magnification



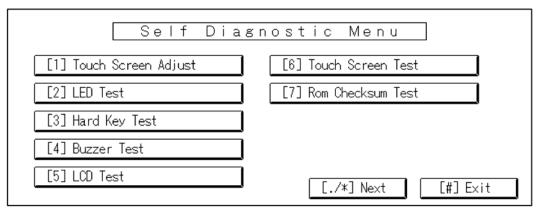
- Make a temporary test chart as shown above using A3/DLT paper.
- 1. Place the temporary test chart on the ADF and make a copy from one of the feed stations.
- 2. Check the magnification, and adjust using the following SP modes if necessary. The specification is $\pm 1\%$.

Touch Screen Calibration

After clearing the memory, or if the touch panel detection function is not working correctly, follow this procedure to calibrate the touch screen.

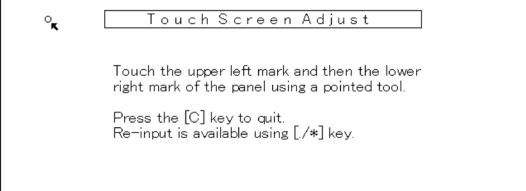


- Do not attempt to use items [2] to [9] on the Self-Diagnostic Menu. These items are for design use only.
- 1. Press , input 1993 at the ten-key pad, and then press 5 times to open the Self-Diagnostics menu.



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2. On the touch screen press "Touch Screen Adjust" (or press $^{\textcircled{1}}$ on the ten-key pad).



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- 3. Use a pointed (not sharp!) tool to press the mark at the upper left of the screen $({}^{\circ}\mathbf{x})$.
- 4. Press the mark at the lower right of the screen (*o) after it appears.
- 5. Touch a few spots on the touch panel to confirm that the marker (+) appears exactly where the screen is touched.
 - If the + mark does not appear where the screen is touched, press Cancel and repeat from Step 2.
- 6. When you are finished, press [#] OK on the screen (or press @ on the ten-key pad).
- 7. Touch [#] Exit on the screen to close the Self-Diagnostic menu and save the calibration settings.

5. System Maintenance

Service Program Mode

The service program (SP) mode is used to check electrical data, change modes, and adjust values.



Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the
hard disk or memory, press the operation switch to switch the power off, wait for the power LED to
go off, and then switch the main power switch off.

SP Tables

See "Appendices" for the following information:

- System SP Tables
- Printer SP Tables
- Scanner SP Tables

Service Mode Lock/Unlock

At locations where the machine contains sensitive data, the customer engineer cannot operate the machine until the Administrator turns the service mode lock off. This function makes sure that work on the machine is always done with the permission of the Administrator.

- If you cannot go into the SP mode, ask the Administrator to log in with the User Tool and then set "Service Mode Lock" to OFF. After he or she logs in:
 - [User Tools] > System Settings > Administrator Tools > Service Mode Lock > OFF
 - This unlocks the machine and lets you get access to all the SP codes.
 - The service technician can do servicing on the machine and turn the machine off and on. It is not
 necessary to ask the Administrator to log in again each time the machine is turned on.
- 2. If you must use the printer bit switches, go into the SP mode and set SP5169 to "1".
- 3. After machine servicing is completed:
 - Change SP5169 from "1" to "0".
 - Turn the machine off and on.
 - Tell the administrator that you completed servicing the machine.
 - The administrator will then set the "Service Mode Lock" to ON.

Overview

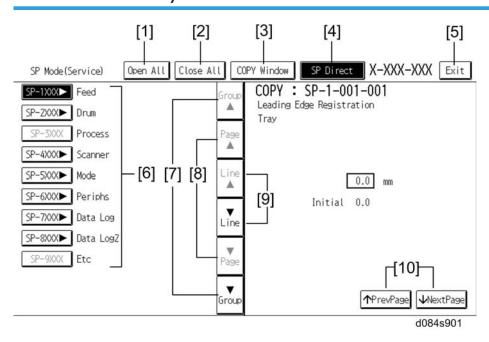
The service program mode is used to check electrical data, change modes, and adjust values. Two service program modes are provided:

- SP Mode (Service). Includes all the options in the SP displays for normal maintenance and adjustments.
- SSP Mode (Special Service). Includes the normal SP modes and some additional options in the SP displays not required for normal settings and adjustments. (Most are marked "DFU" in the following tables.) Do not change these important settings needlessly. For details, contact your supervisor.

Entering and Exiting SP mode

Ask your supervisor how to enter and/or exit the service program mode.

SP Mode Button Summary



Here is a short summary of the touch-panel buttons.

- [1] Opens all SP groups and sublevels.
- [2] Closes all open groups and sublevels and restores the initial SP mode display.
- [3] Opens the copy window (copy mode) so you can make test copies. To return to the SP mode screen, press SP Mode (highlighted) in the copy window.

- [4] Enter the SP code directly with the number keys if you know the SP number and then press . (SP Mode must be highlighted before you can enter the number. Just press SP Mode if it is not highlighted.)
- [5] Press twice to leave the SP mode and return to the copy window to resume normal operation.
- [6] Press any Group number to open a list of SP codes and titles for that group. For example, to open the SP code list for SP1nnn, press Group 1. If an SP has sublevels, touch the appropriate button to expand the list.
- [7] Press to scroll the display to the previous or next group.
- [8] Press to scroll to the previous or next display in segments the size of the screen display (page).
- [9] Press to scroll the display to the previous or next line, line by line.
- [10] Press to move the highlight on the left to the previous or next selection in the list.

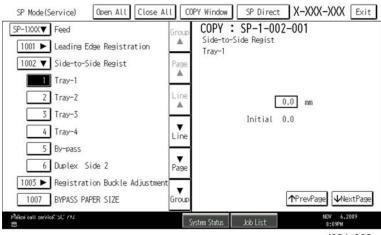
Switching Between SP Mode and Copy Mode for Test Printing

- 1. In the SP mode, select the test print and then press Copy Window.
- 2. Use the copy window (copier mode), to select the appropriate settings (paper size, etc.) for the test print.
- 3. Press the Start button to execute the test print.
- 4. Press SP Mode (highlighted) to return to the SP mode screen and repeat from step 1.

Selecting the Program Number

Program numbers have two or three levels.

- 1. Before you begin, refer to the Service Tables to find the SP that you want to adjust. (See "Service Program Mode Tables".)
- 2. Press the Group number on the left side SP Mode window that contains the SP that you want to adjust.
- 3. Use the scrolling buttons in the center of the SP mode window to display the SP number that you want to open, and then press that number to expand the list.
- 4. Use the center touch-panel buttons to scroll to the number and title of the item that you want to set and press. The small entry box on the right is activated and displays the default or the current setting below.



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- See the Service Program Mode Tables for the range of allowed settings.
- 5. To enter a setting
 - Press the button to toggle between plus and minus, and then use the keypad to enter the
 appropriate number. The number you enter writes over the previous setting.
 - Press 🖱 to enter the setting. (If you enter a number that is out of range, the key press is ignored.)
 - When you are prompted to complete the selection, press Yes.
- 6. If you need to perform a test print, press Copy Window to open the copy window and select the settings for the test print. Press Start (q) twice, and then press SP Mode (highlighted) in the copy window to return to the SP mode display.
- 7. When you are finished, press Exit twice to return to the copy window.

Commonly Used SP Codes and Features

This section is a summary of commonly used SP codes.

For details about the input/output checks, please refer to the SP code tables:

	Input Check	Output Check
Main Machine	SP5803	SP 5804
ARDF	SP 6007	SP 6008
Finisher	SP 6117	SP 6118

Test Pattern Printing (SP2902)



- You can print a test pattern to confirm correct operation of the machine.
- 1. Enter the SP mode and select SP2902.
- 2. Enter the number for the test pattern that you want to print and press . (See the tables below.)
- 3. Press Copy Window to open the copy window and then select the settings for the test print (paper size, etc.)
- 4. Press Start q twice. (Ignore the "Place Original" messages) to start the test print.
- 5. Press SP Mode (highlighted) to return to the SP mode display.

No.	Test Pattern	
0	None	
1	Vertical Line (1 dot)	
2	Horizontal Line (1 dot)	
3	Vertical Line (2-dot)	
4	Horizontal Line (2-dot)	
5	Grid Pattern (1 dot)	
6	Independent (1-dot)	
7	Independent (2-dot)	
8	100% Black Coverage	
9	Belt Pattern	
10	Trimming Area	
11	Argyle	
12	Argyle (2-dot)	
13	Checkered Flag	
14	Horizontal Belt	
15	Independent (4-dot)	
16	Grayscale Horizontal	

No.	Test Pattern	
17	Grayscale Vertical	
18	Grayscale Horizontal/Vertical	
19	Grayscale Grid	
20	Grayscale Horizontal White Stripe	
21	Grayscale Vertical White Stripe	
22	Grayscale Horizontal/Vertical White Stripe	
23	100% White Coverage	
24	Trimming Area (OR Outside Data)	



• See SP 4417 in the SP table for a different set of test patterns.

SMC Data Lists (SP5990)

1. Open SP mode 5990 and select the number corresponding to the list that you wish to print.

	SMC (System Parameter and Data Lists)		
1	All Data List		
2	SP Mode Data List		
3	UP Mode Data List		
4	Logging Data List		
5	Self-Diagnostics Results List		
7	NIB Summary		
8	Capture Log		
21	Copy UP Mode List		
22	Scanner SP Mode List		
23	Scanner UP Mode List		

2. Touch "Execute" on the touch panel

- 3. Select. "Single Face" or "Both Face", then touch "Execute" to start printing.
- 4. After printing the list, press Exit twice to close the SP Mode screen and return to copy mode.

Memory All Clear (SP5801)

Executing Memory All Clear resets all the settings stored in the NVRAM to their default settings except the following:

- SP2989 1-5: PCU ID (South Korea Only)
- SP2990 1-5: Original Toner ID (South Korea Only)
- SP2991 1-5: Original Toner Counter (South Korea Only)
- SP5811 1: Machine serial number
- SP5907: Plug & Play Brand Name and Production Name Setting

Normally, this SP mode should not be used. This procedure is necessary only after replacing the NVRAM, or when the copier malfunctions because the NVRAM is damaged.

1. Enter the SP mode, do SP5801, and press the number for the item that you want to initialize.

No.	What It Initializes	Comments
1	All Clear	Initializes items 2 to 12 below.
2	Engine Clear	Initializes all registration settings for the engine and process settings.
3	SCS	(System Control Service)/SRAM. Initializes default system settings, CSS settings, operation display coordinates, and ROM update information.
4	IMH Memory Clear	Initializes the image file system. (IMH: Image Memory Handler)
5	MCS	(Memory Control Service). Initializes the automatic delete time setting for stored documents.
6	Copier application	Initializes all copier application settings.
7	Fax application	Initializes the fax reset time, job login ID, all TX/RX settings, local storage file numbers, and off-hook timer.
8	Printer application	Initializes the printer defaults, programs registered, the printer SP bit switches, and the printer CSS counter.
9	Scanner application	Initializes the scanner defaults for the scanner and all the scanner SP modes.

No.	What It Initializes	Comments
10	Network application	Deletes the network file application management files and thumbnails, and initializes the job login ID.
11	NCS	(Network Control Service) Initializes the system defaults and interface settings (IP addresses also), SmartNetMonitor for Admin, WebStatusMonitor settings, and the TELNET settings.
12	R-FAX	Initializes the job login ID, SmartNetMonitor for Admin, job history, and local storage file numbers.
14	Clear DCS Settings	Initializes the DCS settings.
15	Clear UCS Settings	Initializes: SP5846 (All), SP5801 15
18	SRM Memory Clear	Initializes information in non-volatile RAM.
19	LCS Memory Clear	Initializes information in non-volatile RAM.

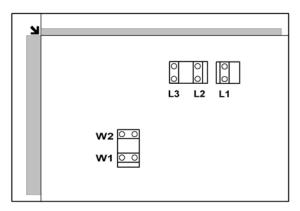
2. Press Execute and turn the main switch off and back on.

APS Output Display (SP4301)

When you open this SP, a small box will be displayed on the SP mode screen with a series of 0's and 1's. The meaning of the display is as follows.

	0000000
Bit	76543210

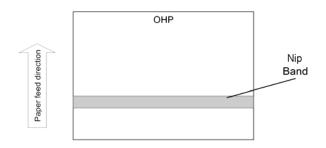
0 = Paper not detected, 1 = Paper detected



d017s905

Bit	Description
7	L2
6	L3
5	W1
4	W2
3	Not Used
2	L1
1	Not Used
0	Not Used

Nip Band Width Measurement (SP1109)



When paper wrinkling or image off-set occurs, the pressure from the pressure roller can be adjusted by changing the position of the pressure springs. At this time, the nip band width can also be checked with SP1109, as follows.

- 1. Do a free run (SP5802) for about 50 sheets.
- 2. Access SP1109 and press the "1" key.
- 3. Press Copy Window to return to the copy window.
- 4. Place an OHP sheet (A4/8.5"x11" sideways) on the by-pass tray or in the 2nd paper tray.
- 5. Press the "Start" key.
- 6. The OHP sheet is stopped in the fusing unit for about 20 seconds, then it will be fed automatically.
- 7. Check the width of the nip band [A] around the center of the OHP. The relationship between the position of the pressure spring and the width is as follows.

1. Pressure spring position	Nip band width
Upper (default position)	5.2 ±0.5 mm
Lower	5.3 ±0.5 mm
2. Envelope feed mode (green lever down) at the default pressure spring position	4.7 ±0.5 mm

If the width is out of the above specification, the pressure spring should be replaced.

Software Reset

The software can be rebooted when the machine hangs up. Use the following procedure.

Turn the main power switch off and on.

-or-

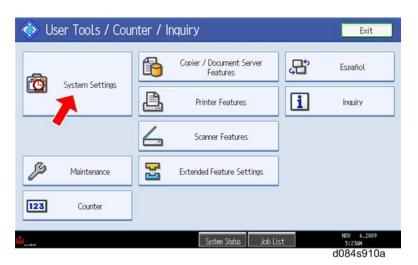
Press and hold down and together for longer than 10 seconds. When the machine beeps once release both buttons. After "Now loading. Please wait" is displayed for a few seconds, the copy window will open. The machine is ready for normal operation.

System Setting Reset

The system settings in the UP mode can be reset to their defaults. Use the following procedure.

1. Press User Tools/Counter.



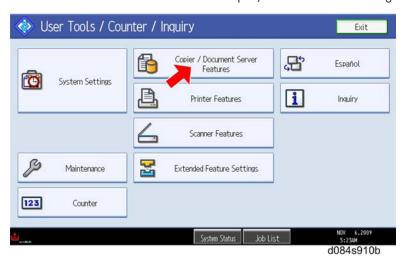


- 2. Press and hold down @ and then touch "System Settings".
- 3. When the message prompts you to confirm that you want to reset the system settings, press Yes.
- 4. When the message tells you that the settings have been reset, press Exit.

Copier Setting Reset

The copy settings in the UP mode can be reset to their defaults. Use the following procedure.

- 1. Press User Tools/Counter.
- 2. Press and hold down @ and then touch "Copier/Document Server Settings".



- 3. When the message prompts you to confirm that you want to reset the Copier Document Server settings, press Yes.
- 4. When the message tells you that the settings have been reset, press Exit.

Service Program Mode Tables

Service Table Key

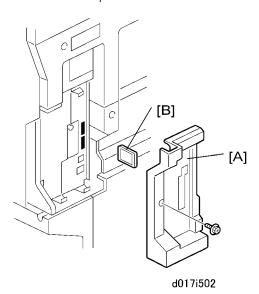
Notation	What it means	
[range / default / step]	Example: $[-9 \text{ to } +9 \text{ / } +3.0 \text{ / } 0.1 \text{ mm step}]$. The setting can be adjusted in the range ± 9 , the setting is reset to $+3.0$ after an NVRAM reset, and the value can be changed in 0.1 mm steps with each key press.	
italics	Comments added for reference.	
*	Value stored in NVRAM. After a RAM reset, this default value (factory setting) is restored.	
1111	An SP number set in bold denotes a "Special Service Program" mode setting that appears only after entering the SP mode by pressing and Copy SP together. (See "Service Program Mode Operation".)	
DFU	"Design or Factory Use". Do not change this value.	
Japan only	The feature or item is for Japan only. Do not change this value.	
(S)	Sideways feed direction	
(L)	Lengthwise feed direction	

Firmware Update

The procedure is the same for all firmware modules.



- If you will change scanner firmware, print 5-990-22 and -23 (SMC reports for scanner settings) before you start this procedure.
- 1. Stop all SDK applications if the VM card is installed (p.118 "HDD Encryption Unit").
- 2. Turn off the main power switch.



- 3. Remove the plastic application cover [A] (x 1).
- 4. Remove the VM card from SD card slot 2 if it is installed.
- 5. Insert the SD card [B] containing the software you wish to download into SD card slot 2 (lower slot).
- 6. Open the front cover.
- 7. Turn on the main power.
- 8. Follow the instructions on the operation panel
- 9. Monitor the downloading status on the operation panel.
 - While downloading is in progress, the panel displays "Writing". When downloading has been completed, the panel displays "Completed".
 - The Start key lights red during downloading, then lights green after downloading is completed.
 (only for "Operation Panel" downloading)

ACAUTION

- Never switch off the power while downloading. Switching off the power while the new software is being downloading will damage the boot files in the controller.
- 10. After confirming that downloading is completed, turn off the main power and remove the SD card.
- 11. If more software needs to be downloaded, repeat steps 1 to 7.
- 12. Turn the main power on and confirm that the new software loads and that the machine starts normally.
- 13. After installing new scanner firmware, do SP5-801-9 (Memory All Clear Scanner Application). Then input scanner settings that are different from the defaults (see the SMC prints of 5-990-22 and -23 that you made earlier).

If the download failed, an error message appears on the panel. Do the download procedure again. If the second download fails:

- For the controller module, set bit 1 of DIP switch 1 on the controller board to OFF, then switch on the machine. The machine boots from the SD card.
- Other modules. Replace the appropriate PCB.

NVRAM Data Upload/Download

The content of the NVRAM can be uploaded to and downloaded from an SD card.

Uploading NVRAM Data (SP5-824)

- 1. Turn off the main switch.
- 2. Remove the SD card cover (F x 1).
- 3. Insert the SD card into SD card slot 2.
- 4. Turn on the main switch.
- 5. Execute SP5-824.
- 6. Press 🛈 to start uploading the NVRAM data.

Downloading NVRAM Data (SP5-825)

The following data are not downloaded from the SD card:

- Total counter
- C/O, P/O Counter
- Dupelx, A3/DLT/Over 420 mm, Staple and Scanner application scanning counters (system settings).
- Engine SP data
- 1. Stop all SDK applications if the VM card is installed (p.118 "HDD Encryption Unit").
- 2. Turn off the main switch.
- 3. Remove the SD card cover [A].
- 4. Remove the VM card from SD card slot 2 if it is installed.
- 5. Plug the SD card [B] into SD card slot 2.
- 6. Turn on the main switch.
- 7. Execute SP5-825.
- 8. Press O to start downloading the NVRAM data.

Note that the following errors could occur during downloading:

- If a card is not installed in the card slot and a message tells you that downloading cannot proceed, you cannot execute downloading, even by pressing ①.
- If the correct card for the NVRAM data is not inserted in the card slot, after you press ① a message will tell you that downloading cannot proceed because the card is abnormal and the execution will halt.

User Tools

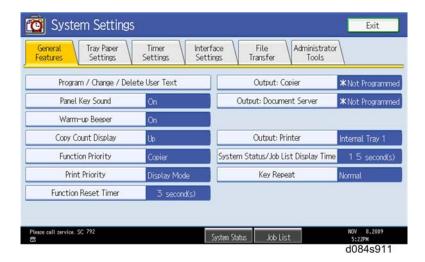
The user program (UP) mode can be accessed by users and operators, and by sales and service staff. UP mode is used to input the copier's default settings. The user can reset the default settings at any time. (See 'System Setting and Copy Setting Reset'.)

UP Mode Initial Screen: User Tools/Counter Display



To enter the UP mode, press User Tools/Counter.

System Settings



In the User Tools/Counter display, press System Settings.

- Click a tab to display the settings.
- If the Next button is lit in the lower right corner, press it to display more options.
- Make the settings, press Exit to return to the User Tools/Counter display, and then press Exit to return
 to the copy window.

Copier/Document Server Features

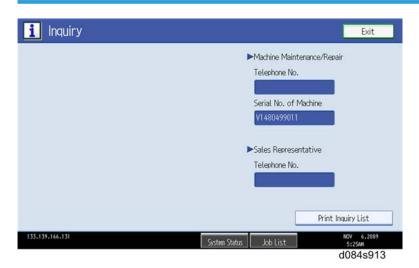
In the User/Tools Counter display, press Copy/Document Server Settings.

- Click a tab to display the settings.
- If the Next button is lit in the lower right corner, press it to display more options.
- Make the settings, press Exit to return to the User Tools/Counter display, and then press Exit to return to the copy window.

Printer, Facsimile, Scanner Settings

In the User/Tools Counter display, press Printer Settings, Facsimile, or Scanner Settings to open the appropriate screen and then click the tab to display more settings.

Inquiry



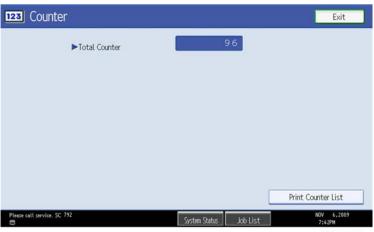
In the User/Tools Counter display, press Inquiry.

The following SP mode settings will be displayed.

• Service Telephone Number

- Serial Number of Machine
- Sales Representative Telephone No.

Counter



d084s914

In the User/Tools Counter display, press Counter.

View the settings, press Exit to return to the User Tools/Counter display, and then press Exit to return to the copy window.

LED and **DIP** Switches

LEDs

Controller

Number	Normal	Controller Software Download	Error
LED 1	Off	Blinking	Off
LED 2	Blinking	Blinking	Lit or Off

BCU

Number	Normal	Controller Software Download	Error
LED 1	Lit	Lit	Off or Blinking
LED 2	Blinking	Lit	Lit (except downloading) or Off

DIP Switches

Controller

SW2

Number	OFF	ON
1	Boot from SD card	Default: Boot from Flash ROM
2 to 4	Default: OFF DFU	

BCU

SW102

Dankankan	Bit			
Destination	1	2	3	4
Japan	OFF	OFF	OFF	OFF
NA	ON	OFF	OFF	OFF
EU/ASIA	OFF	ON	OFF	OFF

Using the Debug Log

This machine provides a Save Debug Log feature that allows the Customer Engineer to save and retrieve error information for analysis.

Every time an error occurs, debug information is recorded in volatile memory but this information is lost when the machine is switched off and on.

To capture this debug information, the Save Debug Log feature provides two main features:

- · Switching on the debug feature so error information is saved directly to the HDD for later retrieval.
- Copying the error information from the HDD to an SD card.

When a user is experiencing problems with the machine, follow the procedure below to set up the machine so the error information is saved automatically to the HDD. Then ask the user to reproduce the problem.

Switching On and Setting Up "Save Debug Log"

The debug information cannot be saved until the "Save Debug Log" function is switched on and a target is selected.

- 1. Enter the SP mode.
 - Press (Clear Modes), then use the 10-key pad to input "107".
 - Press and hold down (Clear/Stop) for more than 3 seconds.
 - Press "Copy SP" on the touch-panel.
 - Input "5857", then press .
- 2. Under "5857 Save Debug Log", press 🖰.

```
COPY: SP-5857-001
Save Debug Log
On/Off (1:ON 0:OFF)

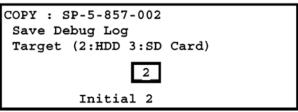
_____
Initial 0
```

debuglog_screen1

3. On the operation panel keypad, press ① then press ④. This switches the Save Debug Log feature on.



 The default setting is "O" (OFF). This feature must be switched on in order for the debug information to be saved. 4. Next, select the target destination where the debug information will be saved. Under "5857 Save Debug Log", touch "2 Target", enter "2" with the operation panel key to select the hard disk as the target destination, then press ...



debuglog_screen2



- Select "3 SD Card" to save the debug information directly to the SD card if it is inserted in the service slot.
- 5. Now touch "5858" and specify the events that you want to record in the debug log. SP5858 (Debug Save When) provides the following items for selection.

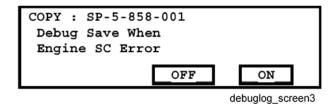
1	Engine SC Error	Saves data when an engine-related SC code is generated.
2	Controller SC Error	Saves debug data when a controller-related SC Code is generated.
3	Any SC Error	Saves data only for the SC code that you specify by entering code number.
4	Jam	Saves data for jams.



• More than one event can be selected.

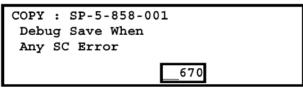
Example 1: To Select Items 1, 2, 4

Touch the appropriate items(s). Press "ON" for each selection. This example shows "Engine SC Error" selected.



Example 2: To Specify an SC Code

Touch "3 Any SC Error", enter the 3-digit SC code number with the operation panel number keys, then press . This example shows an entry for SC670.



debuglog_screen4



- For details about SC code numbers, please refer to the SC tables in Section 4. Troubleshooting.
- Next, select the one or more memory modules for reading and recording debug information. Touch "5859".
- 7. Under "5859" press the appropriate key item for the module that you want to record.
- 8. Enter the appropriate 4-digit number, then press ...



• Refer to the two tables below for the 4-digit numbers to enter for each key.

The example below shows "Key 1" with "2222" entered.



debuglog_screen5

The following keys can be set with the corresponding numbers. (The initials in parentheses indicate the names of the modules.)

4-Digit Entries for Keys 1 to 10

Key No.	Сору	Printer	Scanner	Web
1	2222 (SCS)			
2	2223 (SRM)			
3	256 (IMH)			
4	1000 (ECS)			
5	1025 (MCS)			
6	4848(COPY)	4400 (GPS)	5375 (Scan)	5682 (NFA)

Key No.	Сору	Printer	Scanner	Web
7	2224 (BCU)	4500 (PDL)	5682 (NFA)	6600 (WebDB)
8		4600 (GPS-PM)	3000 (NCS)	3300 (PTS)
9		2000 (NCS)	2000 (NCS)	6666 (WebSys)
10		2224 (BCU)		2000 (NCS)



• The default settings for Keys 1 to 10 are all zero ("0").

Key to Acronyms

Acronym	Meaning	Acronym	Meaning
ECS	Engine Control Service	NFA	Net File Application
GPS	GW Print Service	PDL	Printer Design Language
GSP-PM	GW Print Service – Print Module	PTS	Print Server
IMH	Image Memory Handler	SCS	System Control Service
MCS	Memory Control Service	SRM	System Resource Management
NCS	Network Control Service	WebDB	Web Document Box (Document Server)

The machine is now set to record the debugging information automatically on the HDD (the target selected with SP5-857-002) for the events that you selected SP5-858 and the memory modules selected with SP5-859.

Please keep the following important points in mind when you are doing this setting:

- The number entries for Keys 1 to 5 are the same for the Copy, Printer, Scanner, and Web memory modules.
- The initial settings are all zero.
- These settings remain in effect until you change them. Be sure to check all the settings, especially the settings for Keys 6 to 10. To switch off a key setting, enter a zero for that key.
- You can select any number of keys from 1 to 10 (or all) by entering the corresponding 4-digit numbers from the table.

- You cannot mix settings for the groups (COPY, PRINTER, etc.) for 006 to 010. For example, if you
 want to create a PRINTER debug log you must select the settings from the 9 available selections for
 the "PRINTER" column only.
- One area of the disk is reserved to store the debug log. The size of this area is limited to 4 MB.

Retrieving the Debug Log from the HDD

- 1. Insert the SD card into service slot (slot 2) of the copier.
- Enter the SP mode and execute SP5857 009 (Copy HDD to SD Card (Latest 4 MB) to write the debugging data to the SD card.
- 3. Use a card reader to copy the file and send it for analysis to your local Ricoh representative by email, or just send the SD card by mail.

Recording Errors Manually

Since only SC errors and jams are recorded to the debug log automatically, for any other errors that occur while the customer engineer is not on site, please instruct customers to perform the following immediately after occurrence to save the debug data. Such problems would include a controller or panel freeze.



- To use this feature, the customer engineer must have previously switched on the Save Debug Feature (SP5857-001) and selected the hard disk as the save destination (SP5857-002).
- 1. When the error occurs, on the operation panel, press (Clear Modes).
- 2. On the operation panel, enter "01" then hold down for at least 3 seconds, until the machine beeps. Then release the key. This saves the debug log to the hard disk for later retrieval with an SD card by the service representatives.
- 3. Switch the machine off and on to resume operation.
- 4. The debug information for the error is saved on the hard disk so the service representatives can retrieve it on their next visit by copying it from the HDD to an SD card.

Debug Log Codes

SP5857-015 Copy SD Card-to-SD Card: Any Desired Key

This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number. The copy operation is executed in the log directory of the SD card inserted in the same slot. (This function does not copy from one slot to another.) Each SD card can hold up to 4 MB of file data. Unique file names are created for the data during the copy operation to

prevent overwriting files of the same name. This means that log data from more than one machine can be copied onto the same SC card. This command does not execute if there is no log on the HDD for the name of the specified key.

SP5857-016 Create a File on HDD to Store a Log

This SP creates a 32 MB file to store a log on the HDD. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the HDD when the first log is stored on the HDD, but this operation takes time. This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the HDD. With the file already created on the HDD for the log file, the data only needs to be recorded; a new log file does not require creation. To create a new log file, execute SP5857-011 to delete the debug log data from the HDD and then execute this SP (SP5857-016).

SP5857-017 Create a File on SD Card to Store a Log

This SP creates a 4 MB file to store a log on an SD card. However, this is not a completely empty file. The created file will hold the number "2225" as the SCS key number and other non-volatile information. Even if this SP is not executed, a file is created on the SD card when the first log is stored on the SD card, but this operation takes time. This creates the possibility that the machine may be switched off and on before the log can be created completely. If you execute this SP to create the log file beforehand, this will greatly reduce the amount of time required to acquire the log information and save onto the SD card. With the file already created on the SD card for the log file, the data only needs to be recorded; a new log file does not require creation. To create a new log file, execute SP5857-012 to delete the debug log data from the SD card and then execute this SP (SP5857-017).

6

6. Troubleshooting

Service Call Conditions

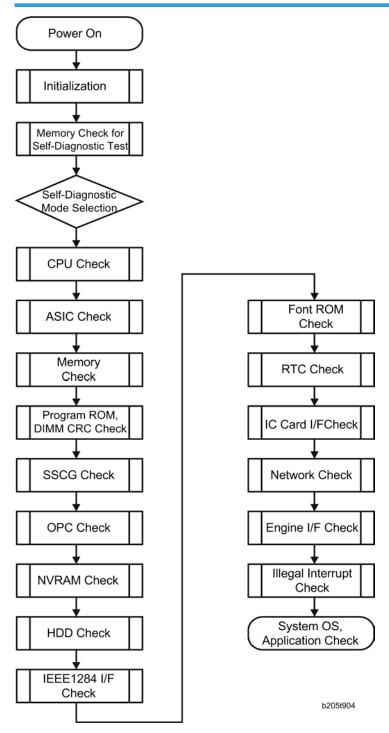
For "Service Call Conditions" information, see "Appendices".

Self-Diagnostic Mode

Self-Diagnostic Mode at Power On

As soon as the main machine is powered on, the controller waits for the initial settings of the copy engine to take effect and then starts an independent self-diagnostic test program. The self-diagnostic test follows the path of the flow chart shown below and checks the CPU, memory, HDD, and so on. An SC code is displayed in the touch panel if the self-diagnostic program detects any malfunction or abnormal condition.

Self-Diagnostic Test Flow Chart



Detailed Self-Diagnostic Mode

Purpose

In addition to the self-diagnostic test initiated every time the main machine is powered on, you can set the machine in a more detailed diagnostic mode manually in order to test other components or conditions that are not tested during self-diagnosis after power on.

The following device is required in order to put the machine in the detailed self-diagnosis mode.

Also, the printer/scanner unit and the optional Centronics (IEEE 1284) interface must be installed.

Part No.	Name
G0219350	Parallel Loopback Connector

Executing Detailed Self-Diagnosis

Follow this procedure to do the detailed self-diagnosis.

- 1. Switch off the machine, and connect the parallel loopback device to the Centronics I/F port.
- 2. Hold down the [®] button, press and hold down the [®] button, and then while pressing both keys at the same time, switch on the machine.
 - You will see "Now Loading" on the touch-panel, and then you will see the results of the test.

A report like the one below is printed every time a detailed self-diagnostic test is executed, whether errors were detected or not.

MODEL NAME XXXX Ser.ial AND ... D000034 Frm ware P/# : ACP82XXXX [1/ 1] Frm ware Version : 2.49.01 Wed Nov 22 13: 15: 30 2000 Sef-Dagnosis Report [System Construction] Kernel Version : Net BSD 1.3.3 (SH NYO KO HAM A_RO M) #0: Sat Nov 11 16:15:35 JST 2000 CPU System BusClock: 100.0 MHz CPU Plpehe Clock : 200.0 M Hz ASI C Version : 1397306160

RAM Capact y : 100.663296 M B Board Type : 7 RTC Exist ence : exist ence HDD Exist ence : exist ence HDD M odel [TotalCounter] 0001000 [Program\b. @] MAIN : ACP82XXXX BNG INE : Ver 1.96 LCCC : V1.39 В : B0045383 ADF : B3515620B SIB FIN : FIN_SOL: BANK : A6825150 LCT MBX : FCU DPX : [Error List @@@] (EFFROOR DE) (BRRO R CO DE) SC CO DE (ERRORCODE) SOOD DE SC CO DE $\infty \infty$ S0835 (110C) SC820 (0001) SC820 (0002) SC820 (0003) SC820 (0004) SC820 (0005)

Paper Feed Troubleshooting

The machine is designed to automatically adjust the bottom plate pressure of each paper feed station in the main machine and paper tray unit for the paper size and amount of paper remaining in the tray. If the machine is frequently double-feeding or failing to feed with a particular paper size with a certain amount of paper remaining in the tray, this problem can be corrected with SP code settings, SP1908 to 1911. These SP codes change the amount of time the bottom plate motor runs forward or reverse to increase or decrease pressure on the bottom of the stack.

- **Double feeding** occurs when the bottom plate is exerting too much pressure on the paper remaining in the tray. To correct this, increase the length of time the motor runs in reverse to lower the tray. This is a minus (-) value.
- Failure to feed occurs when the bottom plate is not exerting enough pressure on the paper remaining in the tray. To correct this, increase the length of time the motor runs forward to raise the tray. This is a positive setting.

Before doing any adjustments with these SP codes, confirm that the correct paper size has been selected for each tray with SP codes 1912, 1913, 1914, 1915.

For more details about how to do the adjustments, please refer to "SP1xxx: Feed" in Service Tables.

6

Skewed Image

Do the following to fix a skewed image problem.

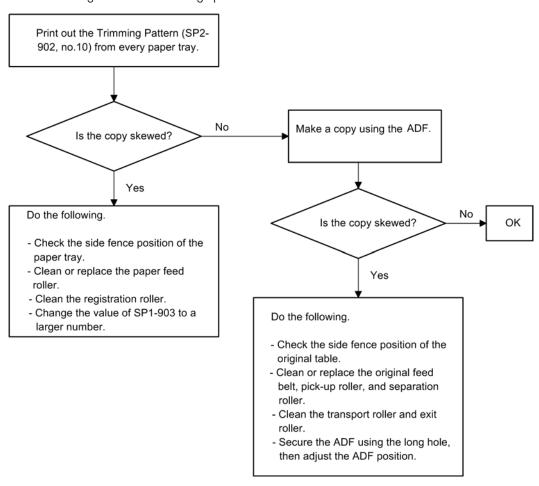
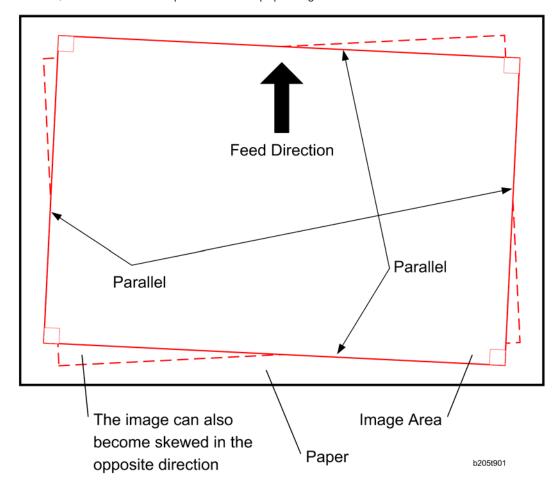


Image Problems

Skewed, Trapezoid and Parallelogram Images

Skewed Images

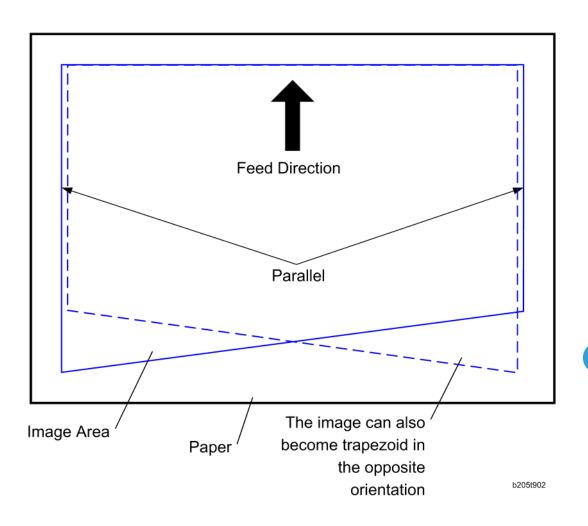
- The image's leading and trailing edges are parallel.
- The image's left and right edges are also parallel.
- But, all four sides are not parallel with the paper edge.

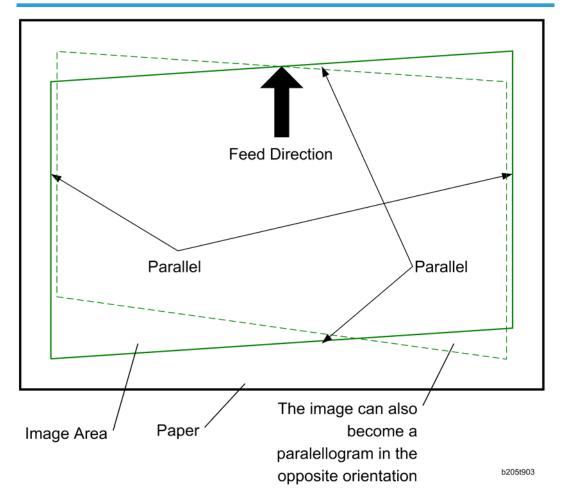


Trapezoid Images

 Only the image's trailing edge is not parallel with the paper edge. The other 3 sides are parallel to the paper's edges.

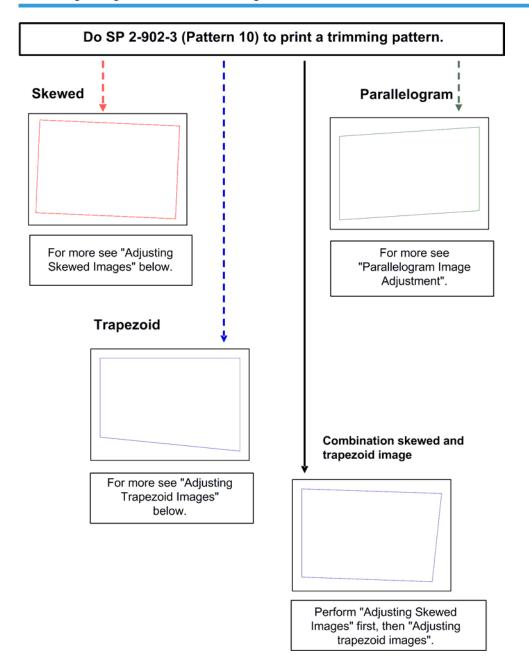
O





• Like skewed images, the leading/trailing edges and left/right edges are parallel to each other. But, the leading and trailing edges are not parallel to the paper's edges.

Checking Images with the Trimming Pattern



Correcting the Images

Correcting Skewed Images

1. Test pattern (Trimming Pattern) mode check

Is the image skewed?	
No	Yes
	Adjust the side fences. There must be no gap between the fences and the paper stack.
	2. Adjust the paper buckle: SP1-003-1 and 2.

2. Platen mode check

Set an original flush against the left and rear scales and make a copy.

Does the image come out as a parallelogram?

No	Yes
	Attach the Scanner Holder (a supporter that is normally attached during shipping)
	OR
	Do Procedure A below.

3. ADF mode check

Feed an original through the ADF.

Is the image skewed?

Is the image skewed?		
No	Yes	
	Do the front and rear transport rollers feed the original straight?	
	No	Yes
		Change the position of the right hinge screw to the longer hole, and make small position adjustments that are necessary.

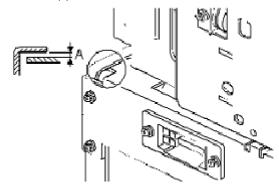
6

	Do Procedure B below.	
Procedure complete.		

Procedure A

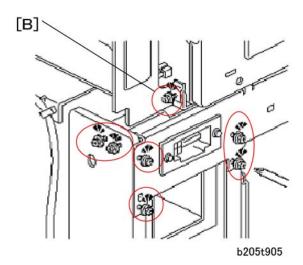
1. Remove the rear and left covers, then the left scanner cover.

Rear, left upper side of machine



b205t904a

- 2. Check to see if there is a gap between the scanner unit holder and frame at [A].
- 3. If there is no gap, the left front section of the scanner unit is lower than the standard position.



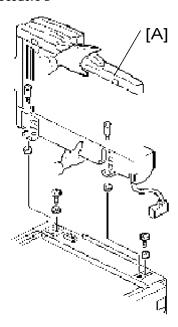
- 4. Loosen all screws (F x7) [B].
- 5. Lift up the left front of unit until there is a 1 to 2 mm gap.
- 6. Tighten the 7 screws.
- 7. Insert a washer (#07080050, 1 mm thick) into gap [A].

8. Attach the washer in its position with an adhesive that sets quickly.

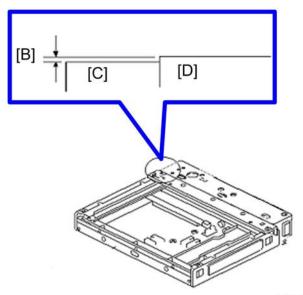
U Note

- This washer will also absorb small amounts of shock.
- 9. Check if the parallelogram image still appears.

Procedure B



1. Remove the ADF [A], machine rear cover, scanner left cover, and scanner rear cover.



b205t906

6

- 2. Measure the height difference [B] between the hinge bracket [C] and scanner housing [D].
- 3. If the difference is 0.5 mm or more:

Add a spacer (t = 0.5 to 0.8) between the hinge bracket (mainframe) and ADF left hinge, to lift the left side of the ADF

-or-

Adjust the stepped height difference between the hinge bracket and scanner housing until it is within 0 ± 0.3 mm.

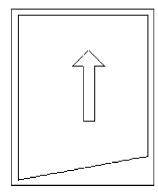


• This is necessary because skew occurs when the hinge bracket more than 0.3 mm lower than the scanner housing.

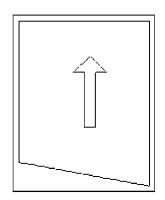
Correcting Trapezoid Images

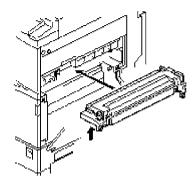
Procedure 1: Minor Adjustment of the Fusing Unit Height (front-to-rear)

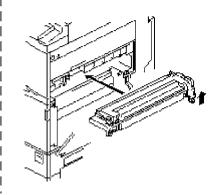
Pattern A



Pattern B







- 1. Print out the SP2-902 Trimming Pattern (value: 10).
- 2. If the image is a pattern A trapezoid:
 - a) Remove and reinstall the Fusing Unit.
 - b) Tighten the left fixing screw while you push up the unit's left side (until it stops).
- 3. If the image is a pattern B trapezoid, do the same for the unit's right side.
- 4. If the image is still printed out as a trapezoid, do Procedure 2 below.

Procedure 2: Minor Adjustment of the Fusing Unit Position (front-to-rear)

1. Remove the fusing unit, then add a washer (t = 0.5 to 1.6) to the front fixing screw.



- This will increase the distance from the mainframe stay.
- 2. Check the image.

- Still NG: Go to the next step.
- OK: Adjustment Complete.
- 3. Add more washers (t = 0.5 to 1.6, as above).



- Too many washers can cause wrinkling in the paper.
- Still NG: Go to the next step.
- OK: Adjustment Complete.
- 4. Remove the fusing unit and all the washers added in steps 1 and 2 above.
- 5. Then, add washer(s) in the same way for the rear side.

Recommended Washers:

t = 0.5, 07080040Z or 07080040G

t = 0.8, 07080050Z or 07080050G

Correcting Parallelogram Images

For the procedure, see "Parallelogram Image Problems".

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Electrical Component Defects

Sensors

Component	CN	РСВ	State	
1st Bottom Fence Sensor 1	309-1	BCU	Open	The CPU cannot detect the paper
1 ST BOTTOM FENCE SENSOR 1	309-1	ВСО	Shorted	size properly.
1st Bottom Fence Sensor 2	309-4	BCU	Open	The CPU cannot detect the paper
1 st bottom rence Sensor 2	309-4	ВСО	Shorted	size properly.
1st Bottom Fence Sensor 3	309-7	BCU	Open	The CPU cannot detect the paper
1 st bottom rence Sensor 3	309-7	ВСО	Shorted	size properly.
1 st Paper End Sensor	307-1	P.C.I.I	Open	The Paper End indicator lights even if paper is placed in the 1st paper tray.
	307-1	ВСО	Shorted Shorted	The Paper End indicator does not light even if there is no paper in the 1st paper tray.
		BCU Shorted	Open	The CPU cannot determine the paper near-end condition properly.
1st Paper Height Sensor 1	310-1		Shorted	
		BCU Open Shorted	Open	The CPU cannot determine the paper near-end condition properly.
1st Paper Height Sensor 2	310-4		Shorted	
			Open	SC501 displays.
1st Paper Lift Sensor	306-1	BCU	Shorted	Paper jam will occur during copying.
1st Side Fence Sensor	000.10	BCU	Open	The CPU cannot detect the paper
1 Si Side Fence Sensor	309-10	ВСО	Shorted	size properly.
1st Tray Detect Sensor	309-13	BCU	Open	The CPU cannot detect the paper
151 Huy Delect Sensor	307-13	שכט	Shorted	size properly.

2nd Bottom Fence Sensor	000.01	D.G.U.	Open	The CPU cannot detect the paper
3	309-21	BCU	Shorted	size properly.
2nd Bottom Fence Sensor	200.15	D.C.I.I	Open The CPU cannot detect	The CPU cannot detect the paper
	309-15	BCU	Shorted	size properly.
2nd Bottom Fence Sensor	309-18	D.C.L.	Open	The CPU cannot detect the paper
2	309-18	BCU	Shorted	size properly.
2nd Days - End Says	308-1	BCU	Open	The Paper End indicator lights even if paper is placed in the 2nd paper tray.
2nd Paper End Sensor	306-1	ВСО	Shorted	The Paper End indicator does not light even if there is no paper in the 2nd paper tray.
			Open	The CPU cannot determine the
2nd Paper Height Sensor 1	310-7 BCU	BCU	Shorted	paper near-end condition properly.
			Open	The CPU cannot determine the
2nd Paper Height Sensor 2	310-10	BCU	Shorted	paper near-end condition properly.
			Open	SC502 displays.
2nd Paper Lift Sensor	306-2	BCU	Shorted	Paper jam will occur during copying.
2nd Side Fence Sensor	309-24	BCU	Open	The CPU cannot detect the paper
Znd Side Fence Sensor	309-24	ВСО	Shorted	size properly.
2nd Tray Datast Sansar	309-27	BCU	Open	The CPU cannot detect the paper
2nd Tray Detect Sensor	309-27	ВСО	Shorted	size properly.
APS Sensor 1: Original Width	000 3	SI O	Open	The CPU cannot detect the
	223-1	SIO	Shorted	original size properly. APS and ARE do not function correctly.
APS Sensor 2: Original Width			Open	The CPU cannot detect the
	223-4 SIO	SIO	Shorted	original size properly. APS and ARE do not function correctly.

APS Sensor 3: Original				The CPU cannot detect the
Length	223-7	SIO	Shorted	original size properly. APS and ARE do not function correctly.
APS Sensor 4: Original			Open	The CPU cannot detect the
Length	223-10	SIO	Shorted	original size properly. APS and ARE do not function correctly.
APS Sensor 5: Original	000.10	SI O	Open	The CPU cannot detect the
Length	223-13	SIO	Shorted	original size properly. APS and ARE do not function correctly.
Bridge Open Sensor	701-3	CKB	Open	"Open Cover" is displayed even the cover is closed.
(Paper Exit)	701-3	CKB	Shorted "Open Cover" is not displeted even the cover is open.	"Open Cover" is not displayed even the cover is open.
Bridge Open Sensor	701-1	CKB	Open	"Open Cover" is displayed even the cover is closed.
(Relay)	701-1	CKB	Shorted	"Open Cover" is not displayed even the cover is open.
Duplex Unit Entrance	340-10	BCU	Open	The Paper Jam indicator will light whenever a copy is made.
Sensor	340-10	ВСО	Shorted The Paper Jam indicator light even if there is no paper.	The Paper Jam indicator lights even if there is no paper.
Dunlandlaid Enith Samaan	859-1	DCII.	Open	The Paper Jam indicator will light whenever a copy is made.
Duplex Unit Exit Sensor	039-1	BCU	Shorted	The Paper Jam indicator lights even if there is no paper.
Duplex Unit Set Sensor	859-9	BCU	Open	The Cover Open indicator is not lit even if the right upper cover is opened.
	007-7	500	Shorted	The Cover Open indicator is lit even if the right upper cover is closed.

Exit Sensor	702.4	CKD	Open	The Paper Jam indicator will light whenever a copy is made.
	703-4	CKB Shorted	Shorted	The Paper Jam indicator lights even if there is no paper.
ID Sensor	321-1	BCU	Open Conno III I	SC302 is displayed (see note)
ID Sensor	321-1	ВСО	Shorted	3C392 is displayed (see flole)
Interchange/Inverter	331-9	BCU	Shorted The Paper Jam indicator lights even if there is no paper. Open Shorted The Paper Jam indicator will light whenever a copy is made. Shorted The Paper Jam indicator lights even if there is no paper. Open The Paper Jam indicator lights even if there is no paper. Open The Paper Jam indicator will light whenever a copy is made. Shorted The Paper Jam indicator will light whenever a copy is made. Shorted The Paper Jam indicator lights even if there is no paper. The TD sensor initial setting procedure is not performed when a new PCU is installed. The TD sensor initial setting procedure is performed whenever the front cover is closed. Open The Paper End indicator lights even if paper is placed in the 1st paper tray. The Paper End indicator does not light even if there is no paper in the 1st paper tray. The Paper End indicator lights even if paper is placed in the 1st paper tray. The Paper End indicator lights even if paper is placed in the 1st paper tray. The Paper End indicator lights even if paper is placed in the 1st paper tray. The Paper End indicator does not light even if paper is placed in the 1st paper tray.	
Sensor	331-9	ВСО		
Lower Relay Sensor	200.4	DCII	Open	
	308-4 B0	BCU	Shorted	
			Open	procedure is not performed when
New PCU Detect Sensor	327-6	BCU	Shorted	procedure is performed whenever the front cover is
D.,, ., E., d. C., ., ., /D., ., ., ., .	860-3	BCU Open even if paper is paper tray. The Paper End in light even if there	even if paper is placed in the 1st	
Paper End Sensor (Bypass)	800-3		Shorted	light even if there is no paper in
Paper End Sensor (Duplex)	860-3	BCII	Open	even if paper is placed in the 1st
	800-3	BCU	Shorted	

D F S	224 1	DCI I	Open	The Paper Jam indicator will light whenever a copy is made.	
Paper Exit Sensor	xit Sensor 324-1 BCU Shorted		Shorted	The Paper Jam indicator lights even if there is no paper.	
Paper Overflow Sensor	324-4	BCU	Open	The paper overflow message is not displayed when the paper overfull condition exist.	
			Shorted	The paper overflow message is displayed.	
Paper Overflow Sensor	703-1	СКВ	Open	The paper overflow message is not displayed when the paper overfull condition exist.	
			Shorted	The paper overflow message is displayed.	
Paper Present Sensor	330-1	BCU	Open	LED does not light even if paper is in 1-bin tray.	
			Shorted	LED lights even if paper is not in 1-bin tray.	
Paper Size Sensor			Open	The CPU cannot detect the	
(Bypass)	860-6	BCU	Shorted	proper paper size, and misfeeds may occur when a copy is made.	
Paper Size Sensor			Open	The CPU cannot detect the	
(Duplex)	860-6 BCU		Shorted	proper paper size, and misfeed may occur when a copy is made	
Desistration Sonsor	221.5	BCU	Open	The Paper Jam indicator will light whenever a copy is made.	
Registration Sensor	321-5		Shorted	The Paper Jam indicator lights even if there is no paper.	
Relay Sensor	702-1	CKB	Open	The Paper Jam indicator will light whenever a copy is made.	
Relay Sensor 702-1 CKB		CND	Shorted	The Paper Jam indicator lights even if there is no paper.	

		SIO	Open	SC120 is displayed.	
Scanner HP Sensor	228-1		Shorted	The CPU does not detect the scanner home position and the scanner motor does not stop.	
Shift Sensor 903-1 STB		STB	Open	\$C770 :- di-ul-u-d	
Shift Sensor	903-1	SID	Shorted	SC770 is displayed.	
TD Sensor	327-1	BCU	Open	SC390 is displayed.	
TD Sensor			Shorted	3C390 is displayed.	
Upper Relay Sensor	307-4	BCU	Open	The Paper Jam indicator will light whenever a copy is made.	
Opper keldy Sellsol			Shorted	The Paper Jam indicator lights even if there is no paper.	



• An SC condition occurs only when a new PCU is being installed in the machine. During copying, if the ID sensor fails, the image density will be changed.

Switches

Component	CN	РСВ	State	Symptom
Correct PCU Detect Switch	327-8	BCU	Open	The TD sensor initial setting procedure is not performed when a new PCU is installed.
			Shorted	The TD sensor initial setting procedure is performed whenever the front cover is closed.
Front Door Safety Switch	201.2	BCU	Open	The Cover Open indicator is not lit even if the front cover is opened.
	321-3		Shorted	The Cover Open indicator is lit even if the front cover is closed.

Right Upper Cover Switch	321-8	BCU	Open	The Cover Open indicator is not lit even if the right upper cover is opened.
			Shorted	The Cover Open indicator is lit even if the right upper cover is closed.
Right Lower Cover Switch	321-1	BCU	Open	The Cover Open indicator is not lit even if the right lower cover is opened.
			Shorted	The Cover Open indicator is lit even if the right lower cover is closed.

Blown Fuse Conditions

ACAUTION

• Use a correct rating fuse for the fuse replacement. Never use a wrong rating fuse. If do so, the machine may be damaged.

F	Re	ating	Symptom when turning on the main switch					
Fuse	115 V	220 to 240 V						
PSU	PSU							
FU1	15 A/250 V	8 A/250V	No response.					
FU2	8 A/125 V	5 A/250 V	No response					
FU3	2 A/125 V	1 A/250V	Anti-condensation/Tray Heater does not turn on.					
FU4	6.3 A/125 V	6.3 A/250V	Optional finisher, bridge unit, and shift tray does not work then SC792 is displayed.					
FU5	6.3 A/125 V	6.3 /250 V	All motors do not rotate. The "Cover Open" and SC indicators light.					
FU6	6.3 A/125 V	6.3 A/250V	The touch panel does not turn on, and all motors (except scanner motor) do not rotate.					
FU7	5 A/250 V	5 A/250 V	No response					
FU8	5 A/250 V	5 A/250 V	No response					

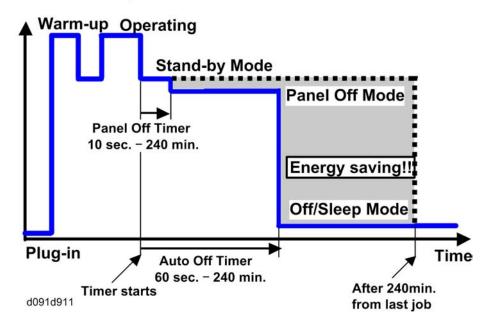
7. Energy Saving

Energy Save

Energy Saver Modes

Customers should use energy saver modes properly, to save energy and protect the environment.

Power Consump.



The area shaded grey in this diagram represents the amount of energy that is saved when the timers are at the default settings. If the timers are changed, then the energy saved will be different. For example, if the timers are all set to 240 min., the grey area will disappear, and no energy is saved before 240 min. expires.

Timer Settings

The user can set these timers with User Tools (System settings > Timer setting)

- Panel off timer (10 sec 240 min): Panel Off Mode, Default setting: 1 min.
- Auto off timer (1 240 min): Off/Sleep Mode, Default settings: 1 min.

Normally, Panel Off timer < Auto Off timer. But, for example, if Auto Off timer < or = Panel Off timer, the machine goes immediately to Off mode when the Auto Off timer expires. It skips the Panel Off mode.

1

Example

- Panel off: 1 min.
- Auto Off: 1 min.
- The machine goes to Off mode after 1 minute. Panel Off mode is not used.

Return to Stand-by Mode

Off/Sleep Mode

Recovery time.

Max 10 sec.

Recommendation

We recommend that the default settings should be kept.

- If the customer requests that these settings should be changed, please explain that their energy costs could increase, and that they should consider the effects on the environment of extra energy use.
- If it is necessary to change the settings, please try to make sure that the Auto Off timer is not too long.
 Try with a shorter setting first, such as 30 min., then go to a longer one (such as 60 min.) if the customer is not satisfied.
- If the timers are all set to the maximum value, the machine will not begin saving energy until 240
 minutes has expired after the last job. This means that after the customer has finished using the machine
 for the day, energy will be consumed that could otherwise be saved.
- If you change the settings, the energy consumed can be measured using SP8941, as explained below.

Energy Save Effectiveness

SP 8941 (Machine Status) keeps a record of the amount of time that the machine spends in each mode.

- 8941-001: Operating mode
- 8941-002: Standby mode
- 8941-003: Panel off mode
- 8941-004: Low power mode (not used in this machine)
- 8941-005: Off/sleep mode

With this data, and the power consumption values from the specifications, we can estimate the amount of energy that is used by the machine.

This should only be used as a reference value, because the power consumption specifications are measured in a controlled environment with a constant power supply.

To get an exact measurement at the customers site, a watt meter must be used to measure the actual energy consumed.

To use SP8941 to calculate the energy consumed:

- At the start of the measurement period, read the values of SP8941 001 to 005.
- At the end of the measurement period, read the values of SP8941 001 to 005 again.
- Find the amount of time spent in each mode (subtract the earlier measurement from the later measurement).
- Multiply this by the power consumption spec for each mode.
- Convert the result to kWh (kilowatt hours)

Here is an example calculation.

Machine Date	Power Consumpt ion (W): Data: a	SP8941: Machine Status	Start Time: (min.) Data: b	End Time: (min.) Data: c	Time Differences (Data:b - Data: c) (min.) Data: d	Power Consumption (Data:a x Data:d) (Wmin.) Data: e
① Operating mode	1081.8	001: Operatin g Time	21089.0	21386.0	297.0	321294.6
(2) Ready mode (stand by)	214.0	002: Standby Time	306163.0	308046.0	1883.0	402962.0
③ Energy mode (Panel off)	214.0	003: Energy Save Time	71386.0	75111.0	3725.0	797150.0
④ Off/Sleep mode	7.0	005: Off mode Time	508776.0	520377.0	11601.0	81207.0
	Total Time of Data: d (min.) Total Time of Data: d/60min. (Hour)					

Total Power Consumption of Data: e (Wmin.)	1602613.60
Total Power Consumption of Data: e /60min./1000W (KWH)	26.71

7

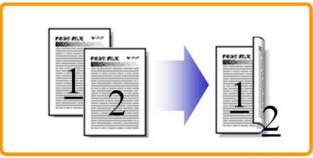
Paper Save

Effectiveness of Duplex/Combine Function

Duplexing and the combine functions reduce the amount of paper used. This means that less energy overall is used for paper production, which improves the environment.

1. Duplex:

Reduce paper volume in half!



d062d102

2. Combine mode:

Reduce paper volume in half!



d062d100

3. Duplex + Combine:

Using both features together can further reduce paper volume by 3/4!

To check the paper consumption, look at the total counter and the duplex counter.

The total counter counts all pages printed.

- For one duplex page, the total counter goes up by 2.
- For a duplex job of a three-page original, the total counter goes up by 3.

The duplex counter counts pages that have images on both sides.

- For one duplex page, the duplex counter goes up by 1.
- For a duplex job of a three-page original, the duplex counter will only increase by 1, even though two sheets are used.

R-C5/C5.5

• Total counter: SP 8581-001

• Duplex counter: SP 8411-001

• Single-sided with combine mode: SP 8421-004

• Duplex with combine mode: SP 8421-005

The following table shows paper savings and how the counters increase for some simple examples of single-sided and duplex jobs

Duplex mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8411-001
1	1	1	0	1	0
2	2	1	1	2	1
3	3	2	1	3	1
4	4	2	2	4	2
5	5	3	2	5	2

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8411-001
10	10	5	5	10	5
20	20	10	10	20	10

If combine mode is used, the total and duplex counters work in the same way as explained previously. The following table shows paper savings and how the counters increase for some simple examples of duplex/combine jobs.

2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8421-004
1	1	1	0	1	1
2	2	1	1	1	1
3	3	2	1	2	2
4	4	2	2	2	2
5	5	3	2	3	2
10	10	5	5	5	5
20	20	10	10	10	10

Duplex + 2 in 1 mode:

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8421-005
1	1	1	0	1	1
2	2	1	1	1	1
3	3	1	2	2	2
4	4	1	3	2	2
5	5	2	3	3	3
6	6	2	4	3	3
7	7	2	5	4	4

Originals	Simplex Sheet used	Duplex Sheets used	Paper Saved	Total counter SP8501-001	Duplex counter SP8421-005
8	8	2	6	4	4
9	9	3	6	5	5
10	10	3	7	5	5
11	11	3	8	6	6
12	12	3	9	6	6

Model R-C5/5.5 Machine Code: D017/D018/D019/D020/D084/D085

Appendices

TABLE OF CONTENTS

1. Appendix: General Specifications	
Specifications	3
Main Machine	3
Printer Controller (General)	5
Scanner Specifications	6
Software Accessories	7
Options	9
Interface Options	18
2. Appendix: PM Tables	
PM Table	21
Main	21
Options	23
3. Appendix: Service Call Conditions	
Service Call Conditions	27
Summary	27
SC Code Descriptions	28
4. Appendix: Service Program Mode Tables	
System SP Tables-1	69
SP1xxx: Feed	69
System SP Tables-2	75
SP2xxx: Drum	75
System SP Tables-3	92
SP3xxx	92
System SP Tables-4	93
SP4xxx: Scanner	93
System SP Tables-5	123
SP5xxx: Mode	123
System SP Tables-6	187
SP6xxx: Peripherals	187
System SP Tables-7	204
SP7xxx: Data Log	204
System SP Tables-8	215
SP8xxx: Data Loa 2	215

Printer Service Tables	252
Printer SP Tables	252
Scanner Service Tables.	258

1. Appendix: General Specifications

Specifications

Main Machine

Configuration:	Desktop
Copy Process:	Dry electrostatic transfer system
Originals:	Sheet, Book
Original Size:	Platen/ARDF: Max. A3/11" x 17"
Copy Paper Size	Tray 1: A5 to A3,/DLT, Custom Tray 2: A6 SEF to A3, DLT, Postcard, Custom Bypass: A6 SEF to A3/DLT, Postcard, Custom
Custom Sizes (W x L)	Tray 1: 140 to 297 mm x 180 to 432 mm Tray 2: 100 to 297 mm x 148 to 432 mm Bypass: 90 to 305 mm x 148 to 1260 mm
Duplexing	A5/HLT to A3/DLT
Paper Weight	Tray 1: 60 to 105 g/m ² Tray 2: 52 to 157 g/m ² Bypass: 52 to 157 g/m ² Duplex: 60 to 105 g/m ²
Copy Speed	D017/D018: 25 cpm (A4 LEF/Letter LEF) D084: 28 cpm (A4 LEF/Letter LEF) D019/D020/D085: 33 cpm (A4 LEF/Letter LEF)
Resolution	600 dpi
Gradation	Read: 256-level (1-dot) Write: 2/3-level (1-dot)
1 st Copy Print Time	4.5 sec. (A4/LT LEF, Tray 1)

	Main Power Switch:			
	Less than 14 sec. (D017/D018/D019/D020)			
	Less than 22 sec. (D084/D085)			
Warm-up Time	Operation Switch: Less than 10	sec.		
	LCD on: Less than 3 sec.			
	Standby: Less than 6 sec.			
	Scan Start: Less than 6 sec.			
Continuous Copies	001 to 999 Sheets			
7	Platen Mode: 25% to 400%			
Zoom	ARDF Mode: 25% to 400%			
D C	Tray 1, 2: 500 Sheets			
Paper Supply	Bypass: 100 Sheets			
Outrant Companity	A4, smaller: 500 Sheets face-down			
Output Capacity	B4, larger: 250 Sheets face-down			
	NA: 120V 60 Hz			
Power Source	EU: 220 to 240V 50/60 Hz (Asia, China)			
	Taiwan: 110V 60 Hz			
	Full System (Operating)	Less than 1.4 KW		
Power Consumption	Off Mode	Less than 1.65 W		
	Sloop Mada	Less than 6 W (NA)		
	Sleep Mode	Less than 6.5 W (EU)		

Dimensions (W \times D \times H)			
Standard	No PTU	570 x 653 x 709 mm (22.4 x 25.7 x 30 in.)	
	With PTU	570 x 653 x 980 mm (22.4 x 25.7 x 38.6 in.)	
Duplexer	With Duplexer (No PTU)	630 x 653 x 709 mm (24.8 x 25.7 x 30 in.)	

	With Duplexer (With PTU)	630 x 653 x 980 mm (24.8 x 25.7 x 38.6 in.)
Maximum (W x D)	With Side Finisher, Bypass	1430 x 653 mm (33.8 x 25.7 in.)
Full System	All Options	1165 x 653 x 1100 mm (48.9 x 25.7 x 43.3 in.)

\\/-:-L+	No Duplexer	Less than 60 kg (132 lb)
Weight	With Duplexer	Less than 65 kg (143 lb)

Noise Emission (Sound Power Level):		
Stand-by (Mainframe only):	40 dB (D017/D018/D84)	
	42.9 dB (D019/D020/D085)	
	64.8 dB (D017/D018)	
Operating (Mainframe only):	65.8 dB (D084)	
	67.6 dB (D019/D020/D085)	

UNote

- The above measurements were made in accordance with ISO 7779.
- Full System: Mainframe + ADF + 1-bin Sorter + Paper Tray Unit + Duplex Unit + Bridge Unit + Finisher

Printer Controller (General)

	D017/D018: Maximum 25 ppm (A4/LT LEF)
Printing Speed	D084: Maximum 28 ppm (A4/LT LEF)
	D019/D020/D085: Maximum 33 ppm (A4/LT LEF)
	PCL6/PCL5e
Detector	PostScript 3
Printer Languages	RPCS (Refined Printing Command Stream - an original Ricoh PDL) (D017/D018/D19/D020 only)
	IPDS

Resolution (Driver)	RPCS 200/600 dpi (D017/D018/D19/D020 only) PS3 300/600 dpi PCL5e 300/600 dpi PCL6 600 dpi IPDS 300/600 dpi
Resident Fonts	PCL:45 fonts, International: 13 fonts PS3: Option fonts PS3
Connectivity	Std.: RJ-45 network port (100BASE-TX, 10BASE-T), USB 2.0 Option: IEEE802.11a/g, g (Wireless LAN), Bluetooth, IEEE1284 (Centronics Parallel), Gigabit Ethernet
Network Protocols	TCP/IP, IPX/SPX, SMB (NetBIOS over TCP/IP), AppleTalk (Auto Switching)
RAM	Maximum MS model: 512 MB (Resident 256 MB + Additional 256 MB) CS model: 768 MB (Resident 512 MB + 256 MB) Note: Additional 256 MB is required for all printer/scanner unit and printer units (D017/D018).

Scanner Specifications

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi
Scanning Speed	MS: 50 ipm (D017/D019/D084), E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text 200 dpi, MH Compression) CS: 29 ipm (D018/D020/D084/D085), E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text 200 dpi, Compression (Default Level))
Available scanning Resolution Range:	100 to 1200 dpi (when used as a Network TWAIN scanner) 100, 200, 300, 400, 600 dpi (when used as a network delivery scanner, Scan-to-Folder, Scan-to-Email, or Document Server storage)
Grayscales/ Full Color:	8 bits/pixel

Interface:	Ethernet 10/100BASE TX, Wireless LAN 802.11a/g, g	
Compression Method:	MH, MR, MMR (Binary Picture Processing) JPEG (Grayscale/ Full Color Processing)	
Video Memory Capacity:	109.41 MB (A4, Full Color, 600 dpi)	
Image Storage Capacity:	Number of originals per file: Maximum 1,000 pages Maximum of files: 3000 files Max. Storage on Doc. Server: 9,000 pages (B&W (ITU-T No. 1/200 dpi MMR)	

Software Accessories

Printer

The printer drivers and utility software are provided on one CD-ROM. An auto-run installer allows you to select which components to install.

Printer Drivers for D017/D018/D019/D020

Printer Language	Windows 95/98/Me	Windows NT4.0	Windows 2000, XP, Server 2003/ Vista, Server 2008	Macintos h
PCL 6	Yes	Yes	Yes	No
PCL 5e	Yes	Yes	Yes	No
PS3	Yes	Yes	Yes	Yes
RPCS	Yes	Yes	Yes	No

U Note

- The printer drivers for Windows NT 4.0 are only for the Intel x86 platform. There is no Windows NT 4.0 printer driver for the PowerPC, Alpha, or MIPS platforms.
- The PS3 drivers are all genuine AdobePS drivers, except for Windows 2000/XP/Server 2003/ Vista, which uses Microsoft PS. A PPD file for each operating system is provided with the driver.

Printer Drivers for D084/D085

Printer Language	Windows 2000, XP, Server 2003/Vista, Server 2008	Macintosh	
------------------	---	-----------	--

PCL 6	Yes	No
PCL 5e	Yes	No
PS3	Yes	Yes
RPCS	No	No



 The PS3 drivers are all genuine AdobePS drivers, except for Windows 2000/XP/Server 2003/ Vista, which uses Microsoft PS. A PPD file for each operating system is provided with the driver.

Utility Software for D017/D018/D019/D020

Software	Description
Agfa Monotype Font Manager 2000 (Win 95/98/Me, NT4, 2000)	A font management utility with screen fonts for the printer.
Smart Device Monitor for Admin (Win 95/98/Me, NT4, 2000/XP/Server 2003/Vista)	A printer management utility for network administrators. NIB setup utilities are also available.
DeskTopBinder – SmartDeviceMonitor for Client (Win 95/98/Me, NT4, 2000/XP/ Server 2003/Vista)	A printer management utility for client users. Peer-to- peer printing utility and parallel/recovery printing functions are included.
LAN-Fax M8 Driver (Win 95/98/Me, NT4, 2000/XP)	This driver allows use of the LAN-Fax functions by installing the LAN-Fax driver, Address Book, and LAN-Fax Cover Sheet Editor.
PS Utility for Mac	This software provides several convenient functions for printing from Macintosh clients.
Acrobat Reader	A utility that allows reading PDF files.

Utility Software for D084/D085

Software	Description
Agfa Monotype Font Manager 2000 (Win 95/98/Me, NT4, 2000)	A font management utility with screen fonts for the printer.
LAN-Fax M8 Driver (Win 95/98/ Me, NT4, 2000/XP)	This driver allows use of the LAN-Fax functions by installing the LAN-Fax driver, Address Book, and LAN-Fax Cover Sheet Editor.

PS Utility for Mac	This software provides several convenient functions for printing from Macintosh clients.
Acrobat Reader	A utility that allows reading PDF files.

Scanner

The scanner driver and utility software are provided on one CD-ROM.

Scanner Driver;

For D017/D018/D019/D020

• Network Twain Driver for Win95/98/Me/NT4/2000/XP/Server 2003/Vista

For D084/D085

• Network Twain Driver for Win 2000/XP/Server 2003/Vista/Server 2008

Scanner Utilities

• DeskTopBinder Lite for 2000/XP/Server 2003

Options

ARDF (D366)

Paper Size/Weight:	Simplex	Size	A3 to A5, DLT to HLT
		Weight	40 to 128 g/m² (10 to 34 lb)
	Duplex	Size	A3 to A5, DLT to HLT
		Weight	52 to 105 g/m² (14 to 28 lb)
Table Capacity:	50 sheets (80 g/m², 20 lb)		
Original Standard Position:	Rear left corner		
Separation:	Feed belt and separation roller		
Original Transport:	Roller transport		
Original Feed Order:	From the top original		

Supported Magnification Ratios:	Сору	-	32 to 200 %
	Fax	Color	32.6 to 200 %
		Black & white	48.9 to 200 %
Power Source:	DC 24V, 5V from the scanner unit		
Power Consumption:	50 W or less		
Dimensions (W × D × H) :	550 mm x 491 mm x 120 mm (21.7" x 19.3" x 4.7")		
Weight:	10 kg (22 lb)		

Duplex Unit (D369)

	Standard sizes:
	A5 LEF to A3, HLT to DLT
Paper Size:	Non-standard sizes:
	Width: 140 to 297 mm, Length: 182 to 432 mm
Paper Weight:	64 g/m ² to 105 g/m ² (20 lb to 28 lb)
Tray Capacity:	1 sheet
Power Consumption:	40 W
Power Source:	DC 24 V, 5 V
Weight:	7 kg
Size (W x D x H):	160 x 490 x 570 mm

Bypass Feed Unit (D370)

Paper Size:	Standard sizes:	
	A6 LEF to A3, HLT lengthwise to DLT	
	Non-standard sizes:	
	Width: 90 to 305 mm, Length: 148 to 432 mm	
Paper Weight:	52 g/m ² to 157 g/m ² (16 lb to 42 lb)	
Tray Capacity:	50 sheets (80 g/m2, 20 lb)	

Paper Feed System:	Friction Pad Paper Feed
Power Source:	DC 24 V, 5 V
Weight:	3 kg
Size (W x D x H):	430 x 110 x 240 mm

Interchange Unit (D371)

Paper Size:	Standard sizes: A6 LEF to A3, HLT to DLT Non-standard sizes: Width: 100 to 305 mm, Length: 148 to 432 mm
Paper Weight:	52 g/m ² to 135 g/m ² (16 lb to 36 lb)
Power Consumption:	15 W
Weight:	1.6 kg
Size (W x D x H):	117 x 447 x 92 mm (4.6" x 17.6" x 3.6")

1-Bin Tray (D367)

Paper Size:	A5 LEF to A3, HLT to DLT	
Paper Weight:	60 g/m ² to 105 g/m ² (16 lb to 28 lb)	
Tray Capacity:	125 sheets (80 g/m², 20 lb)	
Power Source:	DC 5 V, 24 V (from copier)	
Power Consumption:	15 W	
Weight:	4 kg	
Size (W x D x H):	470 mm x 550 mm x 110 mm	

Bridge Unit (D368)

Paper Size:	Standard sizes: A6 LEF to A3, HLT to DLT Non-standard sizes: Width: 100 to 305 mm, Length: 148 to 432 mm	
Paper Weight:	52 g/m² to 135 g/m² (16 lb to 42 lb)	
Power Source:	DC 24 V, 5 V (form copier)	
Dimensions (W x D x H):	413 x 435 x 126 mm	
Weight	3.0 kg (6.6 lbs)	

Shift Tray Unit (D385)

Paper Size:	Standard Size: A5 LEF to A3, HLT LEF to DLT Non-standard Size: Width: 90 to 297 mm, Length: 148 to 432 mm	
Paper Weight:	60 to 105 g/m² (16 to 28 lbs.)	
Tray Capacity:	125 sheets (80 g/m ² , 20 lbs.): B4 or larger 250 sheets (80 g/m ² , 20 lbs.): A4 or smaller	
Power Source:	DC 5 V, 24 V (from copier)	
Power Consumption:	17 W	
Weight:	1.1 kg	
Size (W x D x H):	530 mm x 410 mm x 120 mm	

Paper Feed Unit (D331)

Paper Size:	A5 to A3, $5^{1}/_{2}$ " x $8^{1}/_{2}$ " SEF to 11" x 17"
Paper Weight:	60 – 105 g/m², 16 – 28 lb
Tray Capacity:	500 sheets (80 g/m², 20 lb) x 2 trays

Paper Feed System:	Feed roller and friction pad	
Paper Height Detection:	4 steps (100%, 70%, 30%, Near end)	
Power Source:	 24 Vdc and 5Vdc (from the copier/printer): 120 Vac (120 V version) from the copier/printer when the optional tray heater is installed 220 – 240 Vac (230 V version) from the copier/printer when the optional tray heater is installed 	
Power Consumption:	Max:	28 W (Copying/printing) 23 W (Optional Tray Heater On)
	Average:	17 W (Copying/printing) 15 W (Optional Tray Heater On)
Weight:	25 kg (55 lb)	
Size (W x D x H):	550 mm x 520 mm x 271 mm	

LCT (B391)

Paper Size:	A4 LEF/LT LEF	
Paper Weight:	60 g/m² to 105 g/m², 16lb to 28lb	
Tray Capacity:	2,000 sheets (80 g/m², 20lb.)	
Remaining Paper Detection:	5 steps (100%, 70%, 30%, 10%, Empty): Right Tray 4 steps (100%, 70%, 30%, Empty): Left Tray	
Power Source:	DC 24 V, 5 V (from copier/printer)	
Power Consumption:	50 W (Max.)/30 W (Ave.)	
Weight:	25 kg (55 lb)	
Size (W x D x H):	580 mm x 620 mm x 260 mm (22.8" x 24.4" x 10.2")	

500-Sheet Finisher (D372)

Target Line Speed	77 mm/sec. to 205 mm/sec
Target CPM	35 cpm

	12"x18", A3 SEF to A6 SEF, DLT to HLT SEF				
Face-down Output Size	Shift sizes: A3 SEF to B5 SEF				
	A5, B6, A6 SEF labels possible				
DTl.: I	52 g/m ² (45 K) to 157 g	52 g/m ² (45 K) to 157 g/m ² (135 K)			
Paper Thickness	Up to 253 g/m 2 (220K)	without shift			
Stapling					
C. Lilia I. C. II	50 sheets: A4, LT and smo	aller			
Stack Height for Stapling	30 sheets: B4, LG and lar	ger			
Size	A3 SEF to B5 SEF (can be	mixed if same w	idth)		
Stack Thickness	64 g/m² (45 K) to 157 g	/m ² (135 K)			
Stanling Docitions	Front/Oblique: 1, Front/I	Parallel: 1			
Stapling Positions	Rear/Oblique: 1, Rear/P	arallel: 1, 2 loca	tions		
Output Tray Capacity					
Non-staple Mode	500 sheets: A4, LT and smaller				
	250 sheets: B4, LG				
Staple Mode		Stacks	Size		
	Stack Size (Stapling)				
	2 to 9 Sheets	55 to 46	— A4, B5, LT LEF		
	10 to 50 Sheets	45 to 10	7,4,55, 11 121		
	2 to 9 Sheets	55 to 27	AA DE ITSEE		
	10 to 50 Sheets	25 to 8	A4, B5, LT SEF		
	2 to 9 Sheets	55 to 27	A2 DA DIT IC		
	10 to 30 Sheets	25 to 8	– A3, B4, DLT, LG		
Stacking	Non-Stapling Mode	Vertical: 15 mr	n or less		
		Horizontal: 15	mm or less		
Jogging Precision					
2 to 30 Sheets	2 mm				
	1				

31 to 50 Sheets	3 mm
Dimensions (w x d x h)	396 x 551 x 276 mm (15.6 x 21.7 x 10.9 in.)
Weight	12 kg (26.4 lb)

1000-Sheet Finisher (B408)

Upper Tray

Paper Size:	A3 to A6 11" x 17" to 5.5" x 8.5"		
Paper Weight:	60 to 157 g/m^2 (16 to 42 lb)		
Paper Capacity:	250 sheets (A4 LEF/8.5" x 11" SEF or smaller) 50 sheets (A4, 8.5" x 11" or smaller) 30 sheets (B4, 8.5" x 14" or larger)		

Lower Tray

Paper Size:	No staple mode: A3 to B5, DLT to HLT Staple mode: A3, B4, A4, B5, DLT to LT
Paper Weight:	No staple mode: 60 to 157 g/m² (16 to 42 lb) Staple mode: 64 to 90 g/m² (17 to 24 lb)
Stapler Capacity:	30 sheets (A3, B4, DLT, LG) 50 sheets (A4, B5 LEF, LT)

	No staple mode: 1,000 sheets (A4/LT or smaller: 80 g/m², 20 lb) 500 sheets (A3, B4, DLT, LG: 80 g/m², 20 lb) Staple mode: (80 g/m², 20 lb, number of sets)				
	Set Size	00	10 to 50	-	
Paper Capacity:	Size	2 to 9	10 to 30	31 to 50	
	A4/LT LEF B5 LEF	100	100 to 20	100 to 20	
	A4/LT SEF	100	50 to 10	50 to 10	
	A3, B4, DLT, LG	A3, B4, DLT, LG 50 50 to 10 -			
Staple positions:	1 Staple: 2 positions (Front, Rear) 2 Staples: 2 positions (Upper, Left)				
Staple Replenishment:	Cartridge (5,000 stap	Cartridge (5,000 staples/cartridge)			
Power Source:	DC 24 V, 5 V (from th	DC 24 V, 5 V (from the copier/printer)			
Power Consumption:	50 W				
Weight:	25 kg (55.2 lbs)				
Dimensions (W x D x H):	527 x 520 x 790 mm (20.8" x 20.5" x 31.1")				

1000-Sheet Booklet Finisher (B793)

	No punch mode:
	A3/11" x 17" to A5/8.5" x 5.5" (LEF)
	Punch mode:
	2 holes: A3/11" x 17" to B6/5.5" x 8.5" (SEF) or A4/8.5" x 11" to A5/8.5" x 5.5" (LEF) 3 holes:
Print Paper Size:	A3, B4, 11" x 17" (SEF) or A4, B5, 8.5" x 11" (LEF)
1	4 holes (Europe):
	A3, B4, 11" x 17" (SEF) or A4, B5, 8.5" x 11" (LEF)
	4 holes (North Europe):
	A3/11" x 17" to B6/5.5" x 8.5" (SEF)
	Staple mode:
	A3/11" x 17" to B5/8.5" x 11"
	No punch mode:
	52 to 256 g/m² (14 to 68 lb) (Shift tray)
	52 to 105 g/m² (14 to 28 lb) (Proof tray)
Dana an Mai alata	Punch mode:
Paper Weight:	52 to 163 g/m² (14 to 43 lb)
	Staple mode:
	64 to 90 g/m² (17 to 24 lb)
	Label/Thick paper/OHP cannot be stapled
	[Proof tray]
	100 sheets: A4, 8.5" x 11" or less
Town Community	50 sheets: B4, 8.5" x 14" or more
Tray Capacity:	[Shift tray]
	1000 sheets: A4, 8.5" x 11" (LEF) or smaller
	500 sheets: B4, 8.5" x 14" or larger
	Single size:
Staple capacity:	50 sheets: A4, 8.5" x 11" or smaller
	30 sheets: B4, 8.5" x 14" or larger

Staple position:	3 positions 1-staple: 2 positions (Top Left, Top Right) 2-staples: 1 positions		
Staple replenishment:	Cartridge (5000 staples)		
Power consumption:	60 W		
Dimensions (W x D x H):	535 mm x 600 mm x 930 mm (21.1" x 23.6" x 36.6")		
\\/_:_L	Without punch unit:	48 kg (105.8 lb)	
Weight	With punch unit:	50 Kg (110.3 lb)	

Interface Options

USB Specifications

USB connectivity is built into the controller.

Interface	USB 2.0
Data rates	480 Mbps (high speed), 12 Mbps (full speed), 1.5 Mbps (low speed) High speed mode is only supported by USB 2.0.

IEEE 802.11a/g, g Specifications

Standard applied	IEEE802.11a/g, g			
	Speed	Distance		
	11 Mbps	140 m (153 yd.)		
Data transmission rates	5.5 Mbps	200 m (219 yd.)		
	2 Mbps	270 m (295 yd.)		
	1 Mbps	400 m (437 yd.)		
Network protocols	TCP/IP, Apple Talk, NetBEUI, IPX/SPX, SMB			
Bandwidth	2.4GHz (divided over 14 channels, 2400 to 2497 MHz for each channel)			

Bluetooth Specifications

Transmission Specifications	Based on Bluetooth V1.1
Data Transfer Speed	1 Mbps
Profile	Hard Copy Cable Replacement Profile (HCRP), Serial Port Profile (SPP), BIP
Distance Between Devices	10 m (The maximum distance when using outdoors, otherwise depends on the office environment.)

L

2. Appendix: PM Tables

PM Table



- The amounts mentioned as the PM interval indicate the number of prints.
- After carrying out PM, clear the maintenance counter (SP7-804).

Main

Symbol key: C: Clean, R: Replace, L: Lubricate, I: Inspect

	EM	120K	240K	360K	NOTE	
Scanner/Laser Optics						
Reflector		С	С	С	Optics cloth	
1 st Mirror	С	С	С	С	Optics cloth	
2nd Mirror	С	С	С	С	Optics cloth	
3rd Mirror	С	С	С	С	Optics cloth	
Scanner Guide Rails		С	С	С	Do not use alcohol.	
Platen Sheet Cover	С	I	I	I	Replace the platen sheet, if necessary. Dry cloth or alcohol	
Exposure Glass		С	С	С	Dry cloth or alcohol	
Toner Shield Glass		С	С	С	Optics cloth	
APS Sensor		С	С	С	Dry cloth or blower brush	

	EM	120K	240K	360K	NOTE
Around the Drum					
Transfer/Separation Unit		R	R	R	

	EM	120K	240K	360K	NOTE
ID Sensor		С	С	С	Perform the ID sensor initial setting (SP2-935) after cleaning (blower brush)

	EM	60K	120K	180K	NOTE
PCU					
Drum		R	R	R	
Charge Roller		R	R	R	<u> </u>
Cleaning Roller		R	R	R	Do SP2801. This initializes the developer and resets the TD and ID
Cleaning Blade		R	R	R	sensor outputs to their defaults. It
Pick-off Pawls		R	R	R	discressers me reconstruct.
Developer		R	R	R	

	EM	120K	240K	360K	NOTE				
Paper Feed									
Registration Rollers	С	С	С	С	Clean with water				
Paper Feed Roller	С	R	R	R	Clean with water				
Friction Pad	С	R	R	R	Dry cloth				
Paper Feed Guides	С	С	С	С	Clean with alcohol.				
Relay Rollers	С	С	С	С	Clean with water.				
Bottom Plate Pad	С	С	С	С	Clean with water.				
Registration Roller Mylar	С	С	С	С	Clean with water.				
Dust collection box	С	С	С	С	Remove, empty, clean				

	EM	120K	240K	360K	NOTE
Fusing Unit and Paper Exit					

	EM	120K	240K	360K	NOTE
Fusing Entrance and Exit Guide Plates		С	С	С	Clean with water or alcohol.
Hot Roller		R	R	R	
Pressure Roller		R	R	R	
Fusing Thermistors		R	R	R	Clean with water or alcohol.
Cleaning Roller		С	С	С	
Cleaning Roller Bushings		С	С	С	
Hot Roller Strippers		R	R	R	
Hot Roller and Pressure Roller Bushings	L	L	L	L	Grease Barrierta JFE5 5/2 (A0289300)
Paper Exit Guide Ribs		С	С	С	Clean with water or alcohol.
Others					
Main Motor Drive Gear	L	I	I	I	Silicone Grease G501 (see 'Main Motor Drive Gear')

Options

Symbol key: C: Clean, R: Replace, L: Lubricate, I: Inspect

ARDF (D366)

	EM	120K	240K	360K	NOTE			
ARDF (PM interval is measured in originals.)								
Pick-up Roller	С	R	R	R	Clean with water			
Feed Belt	С	R	R	R	Clean with water			
Separation Roller	С	R	R	R	Clean with water			
Stamp		I	I	I	Replace if necessary			

	EM	120K	240K	360K	NOTE
ADF Exposure Glass	С	С	С	С	Clean with alcohol
White Plate	С	С	С	С	Clean with alcohol
Platen Sheet	С	С	С	С	Clean with alcohol

Paper Feed Unit (D331)

	EM	120K	240K	360K	NOTE				
Paper Feed Unit									
Paper Feed Roller	С	R	R	R	Clean with water				
Friction Pad	С	R	R	R	Dry cloth				
Paper Feed Guides	С	С	С	С	Clean with alcohol.				
Relay Rollers	С	С	С	С	Clean with water.				
Bottom Plate Pad	С	С	С	С	Clean with water.				
Relay Clutch		I	ı	I	Replace if necessary				
Paper Feed Clutch		I	I	I	Replace if necessary				

LCT (B391)

	EM	120K	240K	360K	NOTE
LCT					
Paper Feed Roller		R	R	R	
Pick-up Roller		R	R	R	
Separation Roller		R	R	R	
Transport Rollers		С	С	С	Clean with water
Bottom Plate Pad		С	С	С	Clean with water
Relay Clutch		I	I	I	Replace if necessary

	EM	120K	240K	360K	NOTE
Paper Feed Clutch		I	I	I	Replace if necessary

SR790 (B408)

	EM	120K	240K	360K	NOTE
1,000-sheet Finisher	,	,	,	,	
Rollers	С				Clean with water or alcohol.
Brush Roller	I	I	I	I	Replace if necessary.
Discharge Brush	С	С	С	С	Clean with a dry cloth
Sensors	С				Blower brush
Jogger Fences	ı	ı	I	I	Replace if necessary.

Booklet Finisher SR3000 (B793)

	EM	120K	240K	360K	NOTE
1,000-sheet Booklet Finish	er				
Rollers	С				Damp cloth
Discharge Brush	С				Dry cloth
Sensors	С				Blower brush
Punch Kit			1	1	
Punch Chads	С				Discard chads.

Finisher SR3050 (D372)

	EM	120K	240K	360K	NOTE
500-sheet Finisher					
Rollers	С				Damp cloth

2

1 Bin Tray BN3030 (D367)

	EM	150K	300K	450K	NOTE
1-bin tray unit					
Rollers	С				Dry or damp cloth
Copy Tray	С				Dry or damp cloth
Sensors	С				Blower brush

3. Appendix: Service Call Conditions

Service Call Conditions

Summary

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	To prevent damage to the machine, the main machine cannot be operated until the SC has been reset by a service representative (see the note below).	Enter SP mode, go into SP5810, press [Execute], turn the main power switch off and on.
В	SCs that disable only the features that use the defective item. Although these SCs are not shown to the user under normal conditions, they are displayed on the operation panel only when the defective feature is selected.	Turn the operation switch or main switch off and on.
С	The SC history is updated. The machine can be operated as usual.	The SC will not be displayed. Only the SC history is updated.
D	Turning the main switch off then on resets SCs displayed on the operation panel. These are re-displayed if the error occurs again.	Turn the operation switch off and on.

When a Level "D" SC code occurs

When a Level D SC occurs, a screen opens on the operation panel to tell the operator:

- An error occurred
- The job in progress will be erased
- The machine will reboot automatically after approximately 30 seconds.

The operator can wait until the machine reboots automatically or touch "Reset" on the screen to reset the machine immediately and go back to the copy screen.

If the operator does not touch "Reset"

The next message tells the operator that the machine will reset automatically and that the previous job was lost and must be started again. After reading the message, the operator touches "Confirm" on the screen. The next screen shows the number and title of the SC code, and stops until the operator turns the machine off and on.

If the operator touches "Reset"

If the operator touches "Reset" to bypass the 30-second interval for the machine to reboot, the machine reboots immediately and the operation panel displays the copy screen.

Do not try to use the operation panel during an automatic reboot. If the Remote Service System is in
use, the SC code is sent immediately to the Service Center

SC Code Descriptions

Mportant (

- If a problem concerns a circuit board, disconnect and reconnect the connectors and then test the
 machine. Often a loose or disconnected harness is the cause of the problem. Always do this before
 you decide to replace the PCB.
- If a motor lock error occurs, check the mechanical load before you decide to replace the motor or sensors.
- When a Level "A" or "B" SC occurs while in an SP mode, the machine cannot display the SC number.
 If this occurs, check the SC number after leaving the SP mode.
- The machine reboots automatically when the machine issues a Level "D" SC code. This is done for Level "D" SC codes only.

ACAUTION

Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the
hard disk or memory, press the operation switch to switch the power off, wait for the power LED to
go off, and then switch the main power switch off.

UNote

The main power LED lights or flashes while the platen cover or ARDF is open, while the main machine
is communicating with a fax machine or the network server, or while the machine is accessing the
hard disk or memory for reading or writing data.

		Exposure lamp error 1	
101-1	D	The standard white level could not be set properly when scanning the white plate during automatic white level adjustment.	

3

White plate dirty
Spurious electrical noise on power supply line
Exposure lamp connection loose, broken, defective
Exposure lamp defective
Lamp stabilizer connection, loose, broken, defective
Lamp stabilizer defective
High voltage power supply harness loose, broken, defective
SBU defective
BCU defective
SIO defective

101.0	D	Exposure lamp error 1
101-2		The standard white level setting dropped below the specified range during scanning.
		White plate dirty
		Spurious electrical noise on power supply line
		Exposure lamp connection loose, broken, defective
		Exposure lamp defective
		Lamp stabilizer connection, loose, broken, defective
		Lamp stabilizer defective
		High voltage power supply harness loose, broken, defective
		SBU defective
		BCU defective
		SIO defective

120	_	Scanner home position error 1
120		The scanner HP sensor did not turn off during scanner initialization or copying.
121	_	Scanner home position error 1
121		The scanner HP sensor did not turn on during scanner initialization or copying.

- Scanner motor harness loose, broken, defective at scanner motor or at BCU • Scanner HP sensor harness, loose, broken, defective at HP sensor or at BCU Scanner motor or motor driver board defective Scanner motor drive board defective

 - Scanner HP sensor defective
 - BCU defective

			Black level correction error		Harnesses at the SBU, IPU, BCU loose, broken, defective.
,	41	D			SBU defective
'	41		Black level correction could not be set properly during automatic adjustment.	•	IPU defective
				•	BCU defective

142	D	White level correction error
142		White level correction could not be set properly during automatic adjustment.
		 Harnesses at SBU, IPU, BCU loose, broken, defective Spurious electrical noise on power supply line White plate dirty or missing Anti-condensation heater (option) in scanner unit not operating Exposure lamp harness, loose, broken, defective Exposure lamp defective
		 Lamp stabilizer harness loose, broken, defective Lamp stabilizer defective SBU defective IPU defective BCU defective SIO Defective

SBU auto adjust error 143 С The machine could not acquire the white or black peak level setting at power on.

Exposure lamp, lamp stabilizer harness connection loose, broken, defective
Exposure lamp defective
Lamp stabilizer defective
Spurious electrical noise on power supply line
White plate dirty or missing
Anti-condensation heater (option) in scanner unit not operating
Harness connection at SBU, iPU, BCU, SIO, loose, broken, defective
SBU defective
IPU defective
BCU defective
SIO Defective

		SBU connection error
144-1	D	Connection to the SBU could not be confirmed, possibly due to a defect in the BCU detection port.
144-2	D	SBU serial communication error
144-2		Poor SBU power supply caused by SIO, or BCU detection port defective.
144-3	D	SBU GASBU reset error
144-3		SBU defective, BCU detection circuit defective.
144-4	D	SBU version error
144-4		SBU defective, BCU detection circuit defective.
		Harness connection at IPU, BCU, SBU loose, broken, defective
		Spurious electrical noise on power supply line
		IPU defective
		BCU defective
		SBU defective

	Scanner adjustment error
	During the SBU adjustment, the machine detects that the white level read from the white plate or paper is out of range. (SP4605)
145	Exposure lamp defective
140	Dirty white plate
	Incorrect position or width of white plate scanning (SP4605)
	BICU board defective
	SBU board defective

161		IPU Error	Harness between SBU and IPU loose or broken IPU defective SBU defective	
	D	The self-diagnostic test detected an error at the IPU at power on, or after the machine returned from energy save mode.		
165		Copy Data Security Unit error	Check installation of Copy Data Security (CDS) Unit	
	В	An error occurred when the machine attempted to recognize the Copy Data Security Unit board.	CDS unit not correct type for the machine	
		,	CDS unit defective	
202		Polygon motor error 1: ON timeout		
	D	The polygon mirror motor did not reach the targeted operating speed within 10 sec. after turning on or changing speed		
203		Polygon motor error 1: OFF timeout		
	D	The polygon mirror motor did not leave READY status within 3 sec. after polygon motor switched off.		
204	D	Polygon motor error 1: XSCRDY signal error		
	U	The XSCRDY signal remained HIGH for 200 ms while the LD unit was firing.		
		Polygon motor/driver board harness loose or broken		
		Polygon motor/driver board defective		
		Laser optic unit defective		
		IPU defective		
		1		

• BCU defective

• Controller board defective

220	D	Laser synchronization detection error: LDO		
		The laser synchronizing detection signal for the start position of the LD was not output for two sec. after LDB unit turned on with the polygon motor rotating normally.	•	Laser synchronizing detection board harness loose or broken. Laser synchronization detection board defective LDB unit defective IPU defective
230	D	FGATE ON error		
		The FGATE signal did not assert within the prescribed time. (The BCU generates the FGA signal and sends it to the LD unit when the registration sensor switches on.)	.ΤΕ	BCU, Controller board harness loose or broken

231

FGATE OFF error

The FGATE signal did not go off within the

registration sensor switches on.)

prescribed time. (The BCU generates the FGATE signal and sends it to the LD unit when the

240	LD error	LD error		
		LD unit harness broken, defective		
	The IPU detected a problem	BCU harness broken defective		
	at the LD unit.	LD unit defective		
		BCU defective		

	Charge level output error				
302	D	The PWM output level was detected higher than 50% after 10 consecutive samplings.	 HVPS (High Voltage Power Supply) board harness loose, broken. PCU connection loose or broken 		

		ID sensor calibration – Error 1
		One of the following conditions occurred when the ID sensor pattern was calibrated during printing:
350 B		Vsp > 2.5V
		Vsg < 2.5V
		Vsp = 0V
		Vsg = 0V
		ID sensor defective or dirty
		ID sensor harness disconnected or connector is damaged
		BCU defective
		Scanning system or image creation system malfunction
		High voltage power supply board (power pack) defective

	В	ID sensor calibration – Error 2	
351		The following conditions occurred simultaneously when the ID sensor pattern was calibrated during printing:	
		Vsg = 5V	
		PWM = 0 (LED current drop)	
	 ID sensor dirty or defective ID sensor harness disconnected, or connector damaged BCU board defective High voltage power supply board (power pack) defective 		

353	В	ID sensor LED current error		
		Error occurred during automatic adjustment of Vsg: • Vsg output did not attain 4V, even with PWM = 1023 (maximum current for LED) • Vsg output was greater than 4V, even with PWM=1 (no current for the LED)	 ID sensor dirty or defective ID sensor harness disconnected, or connector damaged IOB defective High voltage power supply board (power pack) defective Scanning system or image creation system malfunction 	

354	В	ID sensor adjustment timeout error		
		Error occurred during automatic adjustment of Vsg. Vsg could not be adjusted to 4.0V ±0.2V within the prescribed time.	 ID sensor dirty or defective ID sensor harness disconnected, or connector damaged BCU defective High voltage power supply board (power pack) defective 	

		ID sensor error		
355	С	For more details about the cause of the problem, please refer to SC350 to 354 above.	 ID sensor dirty or defective ID sensor harness disconnected, or connector damaged BCU defective High voltage power supply board (power pack) defective 	

389	С	TD sensor error 1
		TD sensor output was less than 0.5V, or more than 0.5V 10 times in succession. If the fax unit is installed, this SC is issued immediately. If the fax unit is not installed, this SC is issued after the prescribed number of copies has printed.
390	D	TD sensor error 2
		The TD sensor outputs less than 0.5V or more than 4.0V 10 times consecutively during copying.
		Note: If the fax option is installed, this SC is issued immediately.
		If the fax option is not installed, this SC is issued after the prescribed number of pages is copied.
		TD sensor abnormal Poor connection of the PCU

391	В	Development bias leak		
		A development bias leak signal is detected.	Poor connection at the PCU bias terminalHigh voltage supply board defective	

392	В	TD sensor initial setting error			
		Initialization of the new PCU unit failed (the drum and development roller did not start rotating).	ID seTD seID se	nsor l ensor nsor c	oner seal was not removed harness loose, broken harness loose, broken defective defective
398	В	PCU error (South Korea only)			
		Illegal PCU unit.		Inst	all the correct type of PCU.
399	В	Illegal toner bottle (South Korea or	nly)		
		The installed toner bottle installed is for use with this machine.	s not intend	ed	Install the correct type of toner bottle.
401	В	Transfer roller leak error 1			
		A transfer roller current leak signal detected. (The current feedback sig transfer roller was not detected with correct time.)	nal for the	•	High voltage supply board set incorrectly or defective Transfer roller set incorrectly or damaged Transfer unit set incorrectly
402	В	Transfer roller leak error 2			
		A transfer roller current leak signal is The current feedback signal for the roller is not detected within the corr	transfer		Transfer roller set incorrectly or damaged High voltage supply board set incorrectly or defective
411	В	Separation bias leak error			
				•	High voltage supply board

A separation bias leak signal was detected.

Toner supply motor leak error

defective

• Discharge plate defective

490

		More than 1 ampere supplied to the toner supply motor for longer than 200 ms.	Toner supply motor defective	
500	В	Main motor lock		
		The machine detected motor lock (motor is not operating correctly)	 An obstruction has blocked operation of the main motor Main motor harness loose or broken Main motor or main motor driver board defective 	
501	В	B 1st paper tray lift motor malfunction		
502	В	2nd paper tray lift motor malfunction		
503	В	3rd paper tray lift motor malfunction (optional	Paper Tray Unit)	
504	В	4th paper tray lift motor malfunction (optional Paper Tray Unit) The paper lift sensor did not activate within 18 sec. after the tray lift motor switched on.		
		 An obstruction (jammed paper, paper scraps, etc.) has blocked the motor drive and caused an overload. Paper lift sensor connection loose, disconnected, or damaged Paper lift sensor defective 		

506	В	Paper tray motor lock (optional F	aper Tray Unit)
		A motor lock signal is not detected for more than 1.5 s or the lock signal is not detected for more than 1.0 s during rotation.	 An obstruction (jammed paper, paper scraps, etc.) has blocked the motor drive and caused an overload. Paper tray motor connection loose, disconnected, or damaged Paper tray motor defective

• Tray lift motor connection loose, disconnected, or damaged

• Tray lift motor defective

		LCT rear fence drive error
The return position sensor is not activated after the rear fence to lower the tandem tray for 8 seconds.		The return position sensor is not activated after the rear fence drive motor has been on to lower the tandem tray for 8 seconds.
		An obstruction (jammed paper, paper scraps, etc.) has jammed the rear fence or motor
		Rear fence motor connection loose, disconnected, or damaged
		Rear fence motor defective
		Return position sensor connector loose, disconnected, or damaged
		Return position sensor defective

		LCT side fence drive error
509	B The side fence positioning sensor is not activated for more 3 seconds when the stack in the left tray is moved to the right tray. The side fence close sensor is not a for more 3 seconds after moving the paper stack to the right tray.	
		An obstruction (jammed paper, paper scraps, etc.) has jammed the rear fence or motor
		Side fence motor disconnected or defective
		Side fence position sensor disconnected or defective
		Side fence close sensor disconnected or defective

510	В	LCT lower limit error	
310		The lower limit sensor does not activate within 8 seconds after the tray has been lowered.	
		• An obstruction (jammed paper, paper scraps, etc.) has jammed the tray lift motor	
		Tray lift motor defective	
		Poor connection of the tray lift motor	
		Lower limit sensor disconnected or defective	
		Obstruction that causes overload on the drive mechanism.	

541 A Fusing thermistor open (center)

		The temperature of the hot roller remained below 0°C for 5 sec at the center of the hot roller.	using thermistor out of its position because of correct installation using thermistor disconnected or defective ower supply not within rated range (15% or more blow rating)
542	A	The fusing temperature warm-up error (centre fusing temperature did not reach the standby temperature within 20 sec. at the center of the hot roller after the main switurned on.	Fusing thermistor defective or out of position Fusing lamp disconnected
543	A	Fusing overheat error 1 (center) The fusing thermistor detected a fusing temperature over 230°C for 5 sec. at the center of the hot roller.	TRIAC short on PSU (PSU defective) BCU board defective Fusing thermistor defective
544	A	Fusing overheat error 2 (center) A fusing temperature over 250°C is det at the center of the hot roller by the fusing temperature monitor circuit in the BCU bowledge. The power was interrupted for more that sec.	BCU board defective Fusing thermistor defective
545	A	Fusing overheat error 3 (center) After warmup, the center of the hot rolle attained full operating temperature and maintained this temperature for 10 sec. without the hot roller rotating.	incorrectly, disconnected.
547	В	Zero cross signal detection error	

		Zero cross signals were not detwithin the prescribed time.	ected	 PSU, BCU harness loose or broken PSU defective BCU defective
551	A	The temperature of the hot roller remained below 0°C for 5 sec. at the end of the hot roller.	 Fusing thermistor out of its position because of incorrect installation Fusing thermistor disconnected or defective Power supply not within rated range (15% or more below rating) 	
552	A	Fusing temperature warm-up er The fusing temperature did not standby temperature within 20 center of the hot roller after the turned on.	reach the sec. at the	 Fusing thermistor defective or out of position Fusing lamp disconnected Thermistor defective Fusing lamp defective
553	A	Fusing overheat error 1 (end) The fusing thermistor detected of temperature over 230°C for 5 center of the hot roller.	-	 TRIAC short on PSU (PSU defective) BCU board defective Fusing thermistor defective
554	A	Fusing overheat error 2 (end) A fusing temperature over 250° at the center of the hot roller by temperature monitor circuit in the The power was interrupted for risec.	the fusing e BCU board	BCU board defective Fusing thermistor defective
555	Α	Fusing overheat error 3 (end)		

		After warmup, the center of the hot ro attained full operating temperature a maintained this temperature for 10 se without the hot roller rotating.	nd incorrectly, disconnected.
557	В	Zero cross waveform signal error	
		The waveform of the zero cross signa detected out of range.	Electrical noise on the power supply line
559	Α	Consecutive fusing unit paper jams	
		Three consecutive paper jams occurre fusing unit. The paper jam counter for the fusing reaches 3 times. The paper jam counter after the paper feeds correctly. Note: This SC is issued only if SP115 to "1".	 Remove the paper jam in the fusing unit. Make sure that the paper path in the fusing unit is clear.
590	В	Exhaust fan motor error	
		The CPU detects an exhaust fan lock si more than 3.5 seconds.	Poor connection of the exhaust fan motor Too much load on the motor drive
620	В	Communication error between IPU a	nd ADF
		A break occurred in the connection between the IPU and ADF • ADF • IPU • IPU	disconnected defective harness connection loose, broken defective and noise
621	В	Communication timeout between BC	U and finisher

		A break (LOW) signal was • BCU def	main board defective
	В	Key/card counter device error 1	
632		After 1 data frame is sent to the device, an ACK signal is not received within 100 ms, and is not received after 3 retries.	Serial line from the device to the main machine is unstable, disconnected, or defective
		Key/card counter device error 2	
633	В	During communication with the device, the MCU received a break (Low) signal.	Serial line from the device to the main machine is unstable, disconnected, or defective
		Key/card counter device error 3	
634	В	The backup battery of the counter device RAM is low.	RAM backup battery exhausted Counter device defective
		Key/card counter device error 4	. D :
635	В	After installation of the device a message alerts user to a battery voltage abnormal error.	 Device control board defective Device control board backup battery defective
636	В	OSM User Code File Error	
030	ם	OSIN OSEI Code File EITOI	Make sure the eccm.mod file is
		The correct "usercode" file could not be foun the root folder of the SD card because the file.	d in in the root folder of the SD card.
		not present, or the existing file is corrupted or wrong type file.	Nata: The usercade files are created
641	D	Engine-Controller Communication Error: No	n-Response

There was no response to a frame sent from the	•	Turn the machine power off/
controller board to the engine.		on.

650	В	Communication error of the remote service modem (Cumin-M)
		Authentication error
		The authentication for the Cumin-M failed at dial up connection.
-001	_	Incorrect SP settings
		Disconnected telephone line
		Disconnected modem board
		Check and set the correct user name (SP5816-156) and password (SP5816-157).
		Incorrect modem setting
-004	-	Dial up fails due to the incorrect modem setting.
		Same as -001
		Communication line error
-005	-	The supplied voltage is not sufficient due to the defective communication line or defective connection.
		Same as -001
		Consult with the user's local telephone company.
		Incorrect network setting
-011		Both the NIC and Cumin-M are activated at the same time.
-011	-	Same as -001
		Disable the NIC with SP5985-1.

		Modem board error
		The modem board does not work properly even though the setting of the modem board is installed with a dial up connection.
-012	-	Same as -001
		Install the modem board.
		Check and reset the modem board setting with SP5816.
		Replace the modem board.
		Incorrect dial up connection
		-001: Program parameter error
		-002: Program execution error
651	С	An unexpected error occurred when the modem (Cumin-M) tried to call the center with a dial up connection.

669	В	EEPROM Communication Error	
		The machine failed to detect a match between the read/write data for the EEPROM on the BCU after 3 attempts.	 EEPROM installed incorrectly EEPROM defective. Turn the machine power off/on after replacing the EEPROM. BCU defective.
670	D	Engine response error	
		After powering on the machine, a response is not received from the engine within 30 seconds.	BCU installed incorrectlyBCU defectiveController board defective

Controller-to-operation panel communication error at startup

• No action required because this SC does not interfere with operation of the machine.

• Caused by a software bug

672

After powering on the machine, the communication circuit between the controller and the operation panel is not opened, or communication with controller is interrupted after a normal startup.

D Memory address (PER) command error

- Controller stalled
- Controller board installed incorrectly
- Controller board defective
- Operation panel connector loose or defective

687	D	Memory address (PER) command error	
		The BCU did not receive a memory address command from the controller with the prescribed time once the paper reached the registration sensor.	 Harness connection at BCU, Controller board loose or broken Defective BCU Defective Controller Board

721	В	Front fence motor error	
		The jogger fence motor in the finisher is not operating.	 Jogger motor drive is obstructed (jammed paper, paper scraps, etc.) The motor harness loose or broken Jogger fence HP sensor dirty, loose, defective Jogger fence motor defective

722	В	Rear fence motor error	
		The rear jogger fence motor in the finisher is not operating.	 Rear jogger motor drive is obstructed (jammed paper, paper scraps, etc.) The rear jogger fence motor harness loose or broken Rear jogger fence HP sensor dirty, loose, defective Rear jogger fence motor defective

723

The feed-out belt did not return to the home position within the prescribed time.	 Feed-out belt motor drive is obstructed (jammed paper, paper scraps, etc.) Feed-out belt motor drive obstructed (jammed paper, paper scraps, etc.) Motor harness loose or broken Feed-out belt HP sensor dirty, disconnected, broken Motor defective
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724	В	Positioning roller motor error	
		The positioning roller HP sensor does not detect any signal change (from "Off" to "On" or "On" to "Off") for a certain time after the positioning roller motor has rotated to initialize the finisher or lower the positioning roller.	
		The positioning roller HP sensor does not detect any signal change (from "Off" to "O or "On" to "Off") for a certain time after the positioning roller motor has rotated to ra the positioning roller.	
		The 1st detection issues a jam error, and the 2nd failure issues this SC code.	
	Positioning roller motor defective		
		Motor harness loose, broken	
		 An obstruction (jammed paper, paper scraps, etc.) has blocked the motor d and caused an overload. 	
		Positioning roller HP sensor defective	

725	В	Finisher stack feed-out motor error	
		The stack feed-out belt HP sensor did not activate within the prescribed time after the stack feed-out motor turned on.	 Finisher stack feed-out motor drive is obstructed (jammed paper, paper scraps, etc.) Stack feed-out motor harness loose, broken Stack feed-out HP sensor harness loose, broken Stack feed-out motor defective Stack feed-out HP sensor defective

730	B Shift tray motor error	
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The shift tray motor in the 1000-sheet finisher is not operating.	 Shift motor drive is obstructed (jammed paper, paper scraps, etc.) Shift motor harness loose, broken Shift tray HP sensor harness loose, broken Shift motor defective Shit tray HP sensor defective
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740	В	Corner stapler motor error	
		The corner stapler motor in the 1000-sheet finisher is not operating.	 Staple jam Number of sheets in stack exceeds allowed number of sheets for stapling Stapler motor obstructed Stapler motor defective

742	В	Stapler movement motor	
		The stapler movement motor in the 1000-sheet finisher is not operating.	 Stapler or motor drive is blocked by obstruction Motor harness loose or broken Stapler HP sensor harness loose, broken Motor defective Stapler HP sensor defective

746	Stack feed motor error
	The stack feed HP sensor in the 1000-sheet booklet finisher did not detect "ON" twice (once: jam error) within the prescribed time after the stack feed motor turned on.
	-or-
	The stack feed HP sensor did not detect "OFF" twice (once: jam error) for the specified time after the stack feed motor turned on.
	Motor drive obstructed
	Stack feed motor harness loose, broken
Stack feed motor defective	

750	В	Tray lift motor error	
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The tray lift motor in the 1000- sheet booklet finisher is not operating.	 Motor harness loose, broken Motor drive obstructed Stack height sensor dirty, harness loose, broken Motor defective Stack height sensor defective
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751	В	Stack pressure solenoid error		
			Solenoid harness loose, broken	
		T	 Solenoid obstructed 	
		The stack pressure solenoid in the finisher is not operating.	• Stack height sensor dirty, harness loose, broke	
			Solenoid defective	
			Stack height sensor defective	

760	В	Finisher punch motor error	
		The punch HP sensor did not activate within the prescribed time after the punch motor turned on. The 1st detection issues a jam error, and the 2nd failure issues this SC code.	 Punch HP sensor harness loose, broken Punch motor harness loose, broken Punch motor obstructed Punch motor defective Punch HP sensor defective

761	В	Folder plate motor error	
		The folder plate in the 1000-sheet booklet finisher moved but was not detected at the home position within the prescribed time. The 1st detection failure issues a jam error, are the 2nd failure issues this SC code.	
		 Folder plate motor drive obstructed Folder plate HP sensor harness loose, broken Folder plate motor harness loose, broken Folder plate motor defective Folder plate HP sensor defective 	

763	В	Punch movement motor error
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		The punch unit moved but it was not detected at the home position within the prescribed time. The 1st detection	 Motor harness loose, broken
		failure issues a jam error, and the 2nd failure issues this	 Motor drive obstructed
		SC code.	Motor defective
764	В	Paper position slide motor error	
		The paper position sensor detected movement of the slide but the slide was not detected at the home position within	Motor harness loose, broken
		the prescribed time. The 1st detection failure issues a jam	 Motor drive obstructed
		error, and the 2nd failure issues this SC code.	Motor defective
745	В	Fold unit bottom fence lift motor	
765	В	Fold unit bottom tence lift motor	
		The fold unit bottom fence lift motor in the 1000-sheet	 Motor harness loose, broken
		booklet finisher is not operating. The 1st detection failure	 Motor drive obstructed
		issues a jam error, and the 2nd failure issues this SC code.	Motor defective
766	В	Clamp roller retraction motor	
		The clamp roller retraction motor in the 1000-sheet	Motor harness loose, broken
		booklet finisher is not operating. The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.	Motor drive obstructed
			Motor defective
			- MOIOI delective
770	В	Shift motor error	
		The shift motor HP sensor does not detect any change fo motor has turned on at power on or during its operation.	
		Defective shift motor	
		Defective shift motor HP sensor	
		Check the connections to the shift motor and the shift mo	tor HP sensor.
		Defective shift motor or the shift motor HP sensor.	

798 -1		Upper limit switch error
		The upper limit switch is pushed due to tray lift error or some problems.
	В	Upper limit switch pulled up Defective upper limit switch
		Check the harness.
		Check for blockage around the upper limit switch.
		Replace the upper limit switch.

		Finisher jogger motor error
		The jogger fences move out of the home position but the HP sensor output does not change within the specified number of pulses.
		The 1st failure issues an original jam message, and the 2nd failure issues this SC code.
		Jogger HP sensor disconnected, defective
798 -02	В	Jogger motor disconnected, defective
	В	Jogger motor overloaded due to obstruction
		Finisher main board and jogger motor
		Check or replace the harness.
		Check for blockages in the jogger motor mechanism.
		Replace the jogger HP sensor.
		Replace the jogger motor.
		Replace the finisher main board.

798 -03	В	 The rear jogger fence motor in the finisher is not operating. Rear jogger motor drive is obstructed (jammed paper, paper scraps, etc.) The rear jogger fence motor harness loose or broken Rear jogger fence HP sensor dirty, loose, defective Rear jogger fence motor defective Check or replace the harness. Check for blockages in the rear jogger motor drive mechanism. Replace the rear jogger fence HP sensor.
		Replace the rear jogger fence motor.

The stack feed-out HP sensor does not detect the home position of the stack feedout belt for a certain time after the stack feed-out belt has moved to its home position. The stack feed-out HP sensor does not turn off for a certain time after the stack feedout belt has moved from its home position. The 1st detection failure causes a jam error, and the 2nd failure causes this SC code. • Defective stack feed-out HP sensor Overload on the stack feed-out motor 798 В • Defective stack feed-out motor -04 • Defective main board • Disconnected or defective harness Check or replace the harness. Check for blockages in the stack feed-out mechanism. Replace the stack feed-out HP sensor. Replace the stack feed-out motor. Replace the main board.

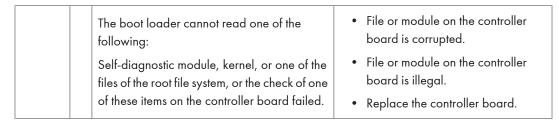
		1
		Positioning roller arm motor error
		The positioning roller HP sensor does not turn on or off for a certain time at power- on.
		The positioning roller HP sensor does not turn on or off for a certain time when the positioning roller returns to its home position from the lower position.
		The 1st detection failure causes a jam error, and the 2nd failure causes this SC code.
798	В	Disconnected or defective harness
-05	В	Overload on the positioning roller arm motor
		Defective positioning roller arm motor
		Defective positioning roller HP sensor
		Check or replace the harness.
		Check for blockages in the positioning roller arm mechanism.
		Replace the positioning roller arm motor.
		Replace the positioning roller HP sensor.
		Finisher corner stapler motor error
		The 1st detection failure issues a jam error, and the 2nd failure issues this SC code.
		For 500-sheet finisher
		The stapler HP sensor does not detect "ON"/"OFF" signal even the stapler moves from the "OFF"/"ON" position for 0.6 seconds.
798	В	The stapler HP sensor does not detect "ON" when a stapling job is commanded or the stapler moves.
-06		Staple jam
		Motor overload
		Defective stapler motor
		Check the connections and cables for the components mentioned above.
		Replace the HP sensor and/or stapler motor
		Replace the finisher main board.

		Finisher stapler movement motor error
		For 500-sheet finisher
		The stapler HP sensor does not detect "OFF" signal even the stapler moves from the "ON" position for 0.35 seconds.
		The stapler HP sensor does not detect "ON" signal even the stapler moves from the "OFF" position for 5.5 seconds.
798 -07	В	Motor overload Loose connection of the stapler home position sensor Loose connection of the stapler movement motor Defective stapler home position sensor Defective stapler movement motor Check the connection of the stapler movement motor. Check the connection of the stapler home position sensor. Replace the stapler home position sensor.

	В	500-sheet finisher: Tray lift motor error
798 -08		 Motor overload Loose connection of the shift tray motor Defective shift tray motor
		Check the connections to the tray lift motor. Replace the tray lift motor.

798 -09		Stack pressure solenoid error
		The stack pressure solenoid in the finisher is not operating.
		Solenoid harness loose, broken
		Solenoid obstructed
	В	Stack height sensor dirty, harness loose, broke
		Solenoid defective
		Stack height sensor defective
		Check or replace the solenoid harness.
		Check for blockages in the stack pressure mechanism.
		Replace the stack height sensor.

791	В	Bridge unit error	
		The machine can communicate with the finisher but not the bridge unit.	 Poor connection between the finisher and mainframe Bridge unit harness damaged or defective Bridge unit defective
792	В	Finisher unit error	
		The machine cannot communicate with the bridge unit but not the finisher.	 Poor connection between the finisher and mainframe Finisher harness damaged or defective Finisher unit defective
798	В	Finisher unit error	
		The machine cannot communicate with the bridge unit but not the finisher.	 Poor connection between the finisher and mainframe Finisher harness damaged or defective Finisher unit defective
817	С	Boot loader error	



819	С	Fatal kernel error	
		Due to a control error, a RAM overflow occurred during system processing.	Controller board defectiveInsufficient memoryExpanded memory defective

Note: For more details about this SC code error, execute SP5990 to print an SMC report so that you can read the error code. The error code is not displayed on the operation panel.

820	D	Self-diagnostics error: CPU	
		Cut-in in ASIC occurs.	 Defective ASIC Defective devices in which ASIC detects cut-in. Damaged boot monitor program or self-diagnostic program Replace the controller board. Reinstall the boot monitor or self-diagnostic program.

821	D	Self-diagnostics error: ASIC
		[XXXX]: Detailed error code
[ongo]		ASIC error
		The write-&-verify check error has occurred in the ASIC.
[OBOO]		Defective ASIC device
		Replace the controller.

	ASIC detection error
	The I/O ASIC for system control is not detected.
[OBO6]	Defective ASIC
	Defective North Bridge and PCI I/F
	Replace the controller board.
	Self-diagnosis error: ASIC
	The CPU checks if the ASIC timer works correctly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.
	System firmware problem
[0D05]	Defective RAM-DIMM
	Defective controller
	Reinstall the controller system firmware.
	Replace the RAM-DIMM.
	Replace the controller board.
	Video bridge device (ASIC) error 1
[50A1]	The CPU does not detect the video bridge device.
[SUAT]	Defective I/F between the video bridge device and controller
	Replace the controller.
	Video bridge device (ASIC) register error 1
[50A2]	The CPU detects the video bridge device, but detects error data from the video bridge device.
	Defective I/F between the video bridge device and controller
	Replace the controller.

822	В	Self-diagnostic error: HDD (Hard Disk Drive) [XXXX]: Detailed error code
[3003]		Timeout error
[3004]		Command error

-	-	When the main switch is turned on or starting the self-diagnostic, the HDD stays busy for the specified time or more.
-	-	 Loose connection Defective HDD Defective controller
-	-	Check that the HDD is correctly connected to the controller. Replace the HDD. Replace the controller.

823	В	Self-diagnostic error: NIB [XXXX]: Detailed error code
[6101]		MAC address check sum error The result of the MAC address check sum does not match the check sum stored in ROM.
[6104]		PHY IC error The PHY IC on the controller cannot be correctly recognized.
[6105]		PHY IC loop-back error An error occurred during the loop-back test for the PHY IC on the controller.
-		Replace the controller.

824	D	Self-diagnosis error: Standard NVRAM The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.
		 Loose connection Defective standard NVRAM Defective controller
[1401]		Check the standard NVRAM is firmly inserted into the socket. Replace the NVRAM. Replace the controller

826	D	Self-diagnostic Error: RTC/optional NVRAM	
			1

[1501]	The one second counted by the RTC is different from the one second counted by the CPU on the controller.	
	Defective the RTC device	
	Replace the RTC device	
	The RTC device is not detected.	
	Defective RTC device	
[15FF]	NVRAM without RTC installed	
	Discharged backup battery	
	Replace the NVRAM with another NVRAM with an RTC device.	

827	D	Self-diagnostic error: Standard SDRAM DIMM [XXXX]: Detailed error code			
		Verification error			
		Error detected during a write/verify check for the standard RAM (SDRAM DIMM).			
[0201]		Loose connection Defective SDRAM DIMM Defective controller			
		Turn the main switch off and on. Replace the SDRAM DIMM. Replace the controller.			

828	D	Self-diagnostic error: ROM
		[XXXX]: Detailed error code
[0101]		Check sum error 1 The boot monitor and OS program stored in the ROM DIMM is checked. If the check sum
		of the program is incorrect, this SC code is displayed.

	829 D	Г	Self-diagnostic error: Optional RAM
		D	[XXXX]: Detailed error code

	Verification error
	Error detected during a write/verify check for the optional RAM (SDRAM DIMM).
	Loose connection
[0301]	Defective SDRAM DIMM
[0001]	Defective controller
	Turn the main switch off and on.
	Replace the SDRAM DIMM.
	Replace the controller.
	Memory structure data error
	The memory structure data error for the optional RAM (SDRAM DIMM) is detected when the self-diagnostic is executed.
[0302]	Defective RAM DIMM
	Defective SPD ROM on RAM DIMM
	Defective 12C bus
	Replace the RAM DIMM.

833	С	Self-diagnostic error 8: Engine I/F ASIC		
[OF30]		ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.		
[OF31]		Replace the IPU.		
[0F41]		ASIC (Mandolin) for system control could not be detected. After the PCI configuration, the device ID for the ASIC could not be checked.		
		Replace the IPU.		
		Could not initialize or read the bus connection.		
[50B1]		Check for loose connections at the mother board.		
		Replace the IPU.		
		Value of the SSCG register is incorrect.		
[50B2]		Check for loose connections at the mother board.		
		Replace the IPU.		

835	С	Self-diagnostic error: Centronic device		
[1102]		Loopback connector is connected but check results in an error.		
		IEEE1284 connector error		
		Centronic loopback connector defective		
		Replace the controller board.		
		Loopback connector is connected but check results in an error.		
		ASIC device error		
[110C]		IEEE1284 connector error		
		Centronic loopback connector defective		
		Replace the controller board.		
		Centronic loopback connector is not connected for detailed self-diagnostic test.		
		Centronic loopback connector not connected correctly		
[1120]		Centronic loopback connector defective		
		ASIC device defective		
		Replace the controller board.		
838	В	Self-diagnostic Error: Clock Generator		
		A verify error occurred when setting data was read from the clock generator via the I2C bus.		
[0701]		Defective clock generator		
[2701]		• Defeative 12C hus		

838	В	Self-diagnostic Error: Clock Generator	
		A verify error occurred when setting data was read from the clock generator via the I2C bus.	
[2701]		Defective clock generator	
[2/01]		Defective I2C bus	
		Defective I2C port on the CPU	
		Replace the controller board.	

839	В	USB flash error	
		This is a self-diagnostic error. The device ID of the on-board USB flash ROM was not recognized.	Replace the controller board

851	D	IEEE 1394 I/F Abnormal
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		IEEE1394 interface error.	IEEE1394 interface board defective Controller board defective	
853	D	Wireless LAN board error 1		
		At startup the wireless LAN board accessed, but the wireless LAN bo 802.11b or Bluetooth) could not a controller board.	ard (IEEE • Wireless LAN board not installed	
854	D	Wireless LAN board error 2		
		The board that holds the wireless L can be accessed, but the wireless L (802.11b/Bluetooth) itself cannot accessed while the machine is ope	Wireless LAN board has been removed during machine operation.	
855	D	Wireless LAN board error 3		
		An error was detected for the wire board (802.11b or Bluetooth).	Wireless LAN board defective Wireless board connection not tight	
856	D	D Wireless LAN board error		
		An error is detected for the wireless LAN board det board (802.11b or Bluetooth). • Wireless LAN board det • PCI connector loose		
857	D	USB I/F Error		
		The USB driver is unstable and generated an error. The USB I/F cannot be used. The USB driver can generate three types of errors: RX, CRC, and STALL errors. Only the STALL error can generate this SC code.		
858	Α	Data encryption conversion error		
		A serious error occurred during data encryption.		
0	Α	Key acquisition error	Replace the controller board	

1	А	HDD key setting error	 Turn the machine power off/on If the error reoccurs, replace the controller board
2	Α	NVRAM read/write error	Replace the NVRAM
30	А	NVRAM error	 Turn the machine power off/on If the error reoccurs, replace the controller board
31	Α		• See SC991

859	В	HDD data encryption error	
		Encryption of data on the hard disk failed.	
8	В	HDD check error	Format the HDD
6	В	Power loss during encryption	Format the HDD
10	В	Data read/write error	See SC863 below

860	В	HDD error 1	
			Cable between HDC and HDD loose or defective
		The hard disk connection is not detected because it is defective	 HDD power connector loose or defective
			HDD not formatted
	or has not been formatted	HDD defective	
			Replace the controller board

861	В	HDD error 2	
		The HDD did not enter the ready status within 30 sec. after power on.	 Cable between HDC and HDD loose or defective HDD power connector loose or defective HDD defective Replace the controller board

862	D Bad sector number error	
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		The number of bad sectors in the HDD (image data area) goes over 101.				
		Defective HDD				
	Format the HDD with SP5-832-002.					
		Replace the HDD.				
863	В	HDD error 3				
		Startup without HD data lead. Data stored on	Format the HDD			
		the hard disk is not read correctly, due to a	HDD defective			
		bad sector on the HDD	Controller board defective			
		HDD error 4	HDD defective			
864	D	HD data CRC error. During operation of the HD, the HD responded with a CRC error.				
	D	HDD error 5				
865		HDD responded to an error during operation for a condition other than those for SC863 or 864.	HDD defective.			
	D	SD card error 1: Recognition error				
866		The SD card in the slot contains illegal program data.	Use only SD cards that contain the correct data.			
	D	SD card error 2: SD card removed				
867		The SD card in the boot slot when the machine was turned on was removed while the machine power was on.	Insert the SD card, then turn the machine off and on.			

		SD card error 3: SD card access			
868			SD card not inserted correctly		
	D		SD card defective		
		An error occurred while an SD card was used.	Controller board defective		
			Note: If you want to try to reformat the SD card, use SD Formatter Ver 1.1.		
870	В	Address Book Data Error			
		Address book data stored on the hard disk	 Initialize the address book data (SP5-846-050). 		
		was detected as abnormal when it was accessed from either the operation panel or the network.	Initialize the user information (SP5-832-006).		
			Replace the HDD.HDD defective		
872	В	HDD mail RX data abnormal			
		An error was detected at power on. The data	HDD sector corrupted. Reformat with SP5832 007.		
		received during mail receive could be neither read nor written.	If this does not repair the problem, replace the HDD.		
		HDD mail TX data error			
873	В	An error was detected on the HDD immediately after the machine was turned on, or power was turned off while the machine used the HDD.	Do SP5832-8 (Format HDD – Mail TX Data) to initialize the HDD. Replace the HDD		
		Delete All error 1: HDD			
874	D	A data error was detected for the HDD/ NVRAM after the Delete All option was used. Note : The source of this error is the Data Overwrite Security Unit D362 running from an SD card.	 Turn the main switch off/on, and try the operation again. Install the Data Overwrite Security Unit again. For more, see "Installation". HDD defective 		

		Delete All error 2: Data area		
875	D	An error occurred while the machine deleted data from the HDD. Note: The source of this error is the Data Overwrite Security Unit D362 running from an SD card.	Turn the main switch off/on, and try the operation again.	
876	D	Log data abnormal		
		An error was detected in the handling of the log data at power on or during machine operation. This can be caused if you turn the machine off while it is operating.	 Software error. Update the firmware NVRAM defective HDD defective 	
		Data Overwrite Security SD card error		
877 D		The 'all delete' function did not execute but the Data Overwrite Security Unit (D362) is installed and activated.	 Replace the NVRAM Reinstall the DOS from the SD card SD card defective 	
		TPM electronic recognition error		
878	D		n machine firmware failed to recognize TPM USB flash is not operating or a system module ated incorrectly. • Replace the controller board	
880	D	File format converter error		
		A request for access to the File Format Converter (MLB) was not answered within the specified time.	File format converter disconnected File format converter board defective	
900	D	Electrical total counter error		

		The total count contains something that is not a number.	 NVRAM incorrect type NVRAM defective NVRAM data scrambled Unexpected error from external source 		
901	D	Mechanical total counter error			
		The counter was removed during standby or while it is operating, possibly damaging he connector.	Check the connection of the mechanical counter Counter defective		
920	D	Printer Error 1			
		An internal application error was detected and operation cannot continue.	Software defective Insufficient memory		
		Printer error 2			
921	В	When the application started, the necessary font was not on the SD card.	• Font not on the SD card		
005		N. 151 5			
925	D	Network File Error			
		The file that manages NetFile is corrupted and operation cannot continue.	Software defectiveFiles on the HDD corrupted		
Software performance error					
	D	The software attempted to perform an unexpected operation due to: 1) software bug, 2) incorrect internal parameter, 3) insufficient working memory.			
990		Turn the machine power off/on			
//0		Reinstall the controller and/or main firmware			
		Note : When this SC occurs, the file name, address, and data will be stored in NVRAM. This information can be checked by using SP7-403. Note the above data and the situation in which this SC occurs. Then report the data and conditions to your technical control center.			

991	С	Software continuity error		
		The software attempted to perform an unexpected operation. However, unlike SC990, the object of the error is continuity of the software.	No operation required. Note: This SC code does not appear on the panel, and is only logged.	
992	D	Unexpected Software Error		
		Software encountered an unexpected operation not defined under any SC code.	Software defective An error undetectable by any other SC code occurred	
		Controller Board Mismatch		
995	D	The information on the controller board does not match that of the machine.		
		Wrong controller board installed		
207	<u> </u>			
997	97 B Application function selection error			
		Application selected by the operator did not start or end normally due to a software problem. An option required by the application may not be installed.		
	Confirm which devices are required for the application.			
	Make sure all devices are configured correctly.			
		If the problem is with the fax unit, the n complicated	esting of the fax group may be too	
		Application start error		
	No applications start within 60 sec. after the power is turned on.		ne power is turned on.	
		Loose connection of RAM-DIMM, ROM-DIMM		
		Defective controller		
998	D	Software problem: check the setting of (OFF)", change it to "0 (OFF)".	of SP5875-001. If the setting is set to "1	
		Check if the RAM-DIMM and ROM-E	DIMM are correctly connected.	
		Reinstall the controller system firmwar	e.	
		Replace the controller.		

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If a problem always occurs under specific conditions (for example, printer driver setting, image file), the problem may be caused by a software error. In this case, the following data and information need to be sent back to your product specialist. Please understand that it may take some time to get a reply on how to solve the problem, because in some cases the design staff in Japan must analyze the data.

- Symptom / Possible Causes / Action taken
- Summary sheet (SP mode "Printer SP", SP1-004 [Print Summary])
- SMC All (SP5-990-001)
- SMC Logging (SP5-990-004)
- Printer driver settings used when the problem occurs
- All data displayed on the screen (SC code, error code, and program address where the problem is logged.)
- Image file which causes the problem, if possible

3

4. Appendix: Service Program Mode Tables

System SP Tables-1

SP1xxx: Feed

1001*	Leading Edge Registration	
1	Tray	Adjusts the printing leading edge registration from each
2	By-pass	paper feed station using the Trimming Area Pattern (SP2902 Pattern No. 10).
		[+9.0 to $-9.0 / +0.0 / 0.1 \text{ mm/step}$] Use the \bigcirc key to toggle between + and – before entering the value.
3	3 Duplex Side2	The specification is 3 ± 2 mm. See "Replacement and Adjustment - Copy Adjustment" for details.

1002*	Side-to-Side Registration	
1	Tray 1	
2	Tray 2	Adjusts the printing side-to-side registration from each paper feed station using the Trimming Area Pattern
3	Tray 3 (Optional PFU Tray 1, or LCT)	(SP2902 Pattern No. 10). [+9.0 to -9.0 / +0.0 / 0.1 mm/step]
4	Tray 4 (Optional PFU Tray 2)	Use the \bigcirc key to toggle between + and – before entering the value. The specification is 2 ± 1.5 mm. See
5	By-pass	"Replacement and Adjustment - Copy Adjustment" for details.
6	Duplex Side 2	uciuns.

1003*	Registration Buckle Adjustment
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1	Tray 1	Adjusts the paper feed clutch timing at registration. The
2	Tray 2/3/4 By-pass	paper feed clutch timing determines the amount of paper buckle at registration. (A larger setting leads to more buckling.) [0 to 10 / 5 / 1 mm/step]
3	Duplex Side 2	[0 to 20 / 6 / 1 mm/step]

	1007*	By-pass Paper Size		
	1007	Controls paper size detection for the by-pass feed table.		
2	LG Detection	[0 to 1 / 0 / -]		
	2		0: LT, 1: LG	

1103	Fusing Idling	
		Switches fusing idling on/off.
	[0 = Off / 1 = On / 2 = Off plus machine temperature check]	
	Switch on if fusing on the 1st and 2nd copies is incomplete (this may occur if the room is cold.)	

1105*	Fusing Temperature Adjustment	
1	Roller Center	Adjusts the fusing temperature at the center and
2	Roller Ends	both ends of the hot roller for normal printing. [120 to 200 / 180 / 1°C/step]
3	Energy Saver	Adjusts the fusing temperature at the center and both ends of the hot roller for energy saver mode. [0 to 160 / 150 / 1°C/step]
4	Thick Paper – Roller Center	Adjusts the additional fusing temperature for thick
5	Thick Paper – Roller Ends	paper for the 2nd paper tray and for the bypass tray. [0 to 30 / 15 / 1 °C/step]
6	After Warming-up - Center	Adjusts the fusing temperature at the center of the hot roller after the machine has warmed up. [120 to 200 / 190 / 1°C/step]

7	After Warming-up - Ends	Adjusts the fusing temperature at both ends of the hot roller after the machine has warmed up. [120 to 200 / 195 / 1°C/step]
8	After Warming-up - No. of Pages	In this machine, fusing temperature is kept 10°C higher than the normal temperature for a number of pages after the machine has warmed up. This SP selects the number of pages made at this temperature. [0 to 10 / 3 / 1 page/step]
9	After Warming-up - Time	In this machine, fusing temperature is kept 10°C higher than the normal temperature for a short while after the machine warms up. This SP selects the length of time that this temperature is used. [0 to 180 / 60 / 1s/step]
10	Wait Temp: Center Minus	Adjusts the subtract temperature for the center of the hot roller in stand-by mode. [0 to 30 / 15 / 1 °C]
11	Wait Temp: Ends Minus	Adjusts the subtract temperature for the ends of the hot roller in stand-by mode. [0 to 30 / 15 / 1 °C]

1106	Fusing Temperature Display	
1	Roller Center	Displays the fusing temperature for the center or both
2	Roller Ends	ends of the hot roller.
3	In the Machine at Power On	Displays the temperature in the machine at power on. This temperature is monitored by the thermistor on the SBCU board.

	Fusing Soft Start Adj: Cycle
1108*	Selects whether the fusing temperature control cycle is 1 or 3 seconds.
	If this is "1 (3 s)", the power supply fluctuation caused by the fusing lamp turning on is less often.
	[0 = 1 s / 1 = 2 s]
	Default: 0 = N. America, Taiwan, 1 = Europe/Asia

1109*	Fusing Nip Band Check	
	Checks the fusing nip band.	
1	0: OFF 1:ON (By-pass)	Executes the fusing nip band check from the bypass tray.
2	0: OFF 1:ON (2nd Tray)	Executes the fusing nip band check from the 2nd tray.

1159		Fusing Jam Detection	
	Disables or enables the consecutive jam error for the fusing unit.		
	[0 to 1 / 0 / 1 Step]		
		When set to "1" (on) this SC code is issued after the 3rd consecutive jam in the fusing unit.	

1903*	Feed Clutch Re-energize	
	Adjusts the paper feed amount allowed by the clutch after correcting the skew at registration. When paper jams occur after restarting paper feed after registration, increase the value to help the registration roller feed the paper.	
1	By-pass Feed	[0 to 10 / 6 / 1 mm/step]
2	Tray 1 Feed	[0.1.10.40.41
3	Other Trays	[0 to 10 / 0 / 1 mm/step]

1907* Timing Adjustment DFU

1908	F1 Plate Adj	Upper Tray: Main Machine (Standard)
1909	F2 Plate Adj	Lower Tray: Main Machine (Standard)

1910	F3 Plate Adj	Upper Tray: PTU (Option)
1911	F4 Plate Adj	Lower Tray: PTU (Option)
	These SP codes adjust the initial amount of pressure that the bottom plate exerts on the bottom of the stack that presses against the feed roller. Adjust these SP codes if the machine is consistently double-feeding or failing to feed a specific paper size.	
	These SP codes adjust the length of time that the lift motor runs forward or reverse to raise or lower the bottom plate under the stack after the top of stack has reached the feed position.	
	Double feeding occurs when there is too much pressure. To correct this, increase the length of time the motor runs in reverse to lower the tray (to do this, reduce the value of the setting).	
	Failure to feed occurs when there is not enough pressure. To correct this, increase the length of time the motor runs forward to raise the tray. (to do this, increase the value of the setting).	
	How to Read These SP Codes	
	 Each selection shows the paper size and a percentage that indicates the amount of paper remaining in the tray when the setting will take effect. For example, "B4,LG 70%" means the setting will take effect when B4 or Legal size paper is loaded in the tray and 70% of the paper remains in the tray. 	
	The "Initial" notation in the display indicates the default value for the setting. A positive number (+) indicates the length of time (ms) the lift motor runs forward to raise the bottom plate and increase pressure. A negative number (-) indicates the length of time (ms) the lift motor runs in reverse to lower the bottom plate and reduce pressure.	
	Please note that the "Initial" settings for some settings are negative (reverse run time), others are positive (forward run time).	
	Note : Before doing any adjustments with these SP codes, confirm that the correct paper size has been selected for each tray with SP codes 1912, 1913, 1914, 1915.	
1	A3, DLT:100%	To correct feed problems for a paper size, be sure to
		set all four settings (100%, 70%, 30%, 10%) for each paper size that is causing problems.
56	A5T:30%->10%	The "T" notation denotes "SEF" (Short Edge Feed).The "Y" notation denotes "LEF" (Long Edge Feed)

1913	2 Tray: Auto Paper Size Detection		
1914	3 Tray: Auto Paper Size Detection		
1915	4 Tray: Auto Paper Size Detection		
	Some paper sizes are very nearly the same (A4, LT for example). The paper size sensors are not sensitive enough to distinguish between such paper sizes. Use these SP codes to select the paper size for the tray. A setting can be done for each tray:		
	1 Tray: Upper Tray (Main Machine)		
	2 Tray: Lower Tray (Main Machine)		
	3 Tray: LCT Tray or Upper Tray: Paper Tray Unit		
	4 Tray: Lower: Tray Paper Tray Unit		
1	Size 1: B5/Exe Landscape		
2	Size 2: A5/HLT Landscape	[0 to 1/ 0 /1]	
3	Size 3: A4/LT Landscape	0: ISO (A3, A4, A5, etc.) 1: USA (DLT, LT, EXE, etc.)	
4	Size 4: A4/LG	Note: "Landscape" means LEF (Long Edge Feed)	
5	Size 5: A3/DLT		

1991	Max Fusing Lamp Duty DFU		
1991	These SP codes are debugging tools.		
1	Roller Center		
2	Roller Ends	[40 to 100/ 80 /10%]	
3	After Warming-up – Center		
4	After Warming-up - Ends	[40 to 100/ 100 /10%]	

System SP Tables-2

SP2xxx: Drum

2001*	Charge Bias
	Setting (Copying)
	Adjusts the voltage applied to the charge roller during printing.
1*	This value will be changed automatically when the charge roller bias correction is performed.
	Note that if this value is changed, the charge roller voltage will be corrected based on the new voltage.
	[2100 to 1500 / -1700 / 1 V/step]
	ID Sensor Pattern
2*	Adjusts the voltage applied to the charge roller when making the Vsdp ID sensor pattern (for charge roller bias correction).
	The actual charge roller voltage is this value plus the value of SP2001 1.
	[0 to 400 / 200 / 1 V/step]
	Temporary Input
3	Inputs the charge roller voltage temporarily for test purposes.
	Do not change the value.
	[0 to -2500 / 0 / 1 V/step]

2005*	Charge Bias Correction
Vsdp Min	
1	Adjusts the lower threshold value for the charge roller correction. When the value of Vsdp/Vsg is less than this value, the charge roller voltage increases by 50V (e.g. from –500 to –550). The size of the increase depends on SP2005 3. [0 to 100 / 90 / 1%/step]

	Vsdp Max
2	Adjusts the upper threshold value for the charge roller correction. When the value of Vsdp/Vsg is greater than this value, the charge roller voltage decreases by 50V (e.g. from –550 to –500). The size of the decrease depends on SP2005 3. [0 to 100 / 95 / 1 %/step]
	Charge Roller Bias Correction
3	Adjusts the size of the charge roller voltage correction. [0 to 200 / 50 / 1 V/step]

2101*	Erase Margin Adjust
1	Leading Edge
	Adjusts the leading edge erase margin. The specification is 3 ± 2 mm. See "Replacement and Adjustment - Copy Adjustment" for details. $[0.0 \text{ to } 9.0 \ / \ 3.0 \ / \ 0.1 \text{ mm/step}]$
	Trailing Edge – Small Paper
2	Adjusts the trailing edge erase margin for paper of length 216 mm or less. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Adjustment" for details. [0.0 to 9.0 / 2.0 / 0.1 mm/step]
	Trailing Edge – Middle Paper
3	Adjusts the trailing edge erase margin for paper of length 216.1 to 297 mm. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Adjustment" for details. [0.0 to 9.0 / 3.0 / 0.1 mm/step]
	Trailing Edge – Large Paper
4	Adjusts the trailing edge erase margin for paper longer than 297 mm. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Adjustment" for details. [0.0 to 9.0 / 4.0 / 0.1 mm/step]

Left Side Adjusts the left edge erase margin. The specification is 2 ±1.5 mm. See "Replacement and Adjustment - Co	
The energification is 2 ± 1.5 mm. See "Depleasment and Adjustment C.	
for details.	opy Adjustment"
[0.0 to 9.0 / 2.0 / 0.1 mm/step]	
Right Side	
Adjusts the right edge erase margin.	
The specification is 2 +2.5/-1.5 mm. See "Replacement and Adjustmed Adjustment" for details.	ent - Copy
[0.0 to 9.0 / 2.0 / 0.1 mm/step]	
Rear – Trailing Edge (Duplex 2nd Side)	
Adjusts the trailing edge erase margin on the reverse side of duplex co	ppies.
The actual trailing edge erase margin on the reverse side is this value presented by SP2101-2 or 3 or 4.	olus the value of
The specification is 3 ±2 mm. See "Replacement and Adjustment - Copdetails	by Adjustment" for
[0.0 to 9.0 / 1.2 / 0.1 mm/step]	
Rear – Left Side (Duplex 2nd Side)	
Adjusts the left side erase margin on the reverse side of duplex copies.	
The actual left side erase margin on the reverse side is this value plus the SP2101-5.	ne value of
The specification is 2 ±1.5 mm. See "Replacement and Adjustment - Cofor details.	opy Adjustment"
[0.0 to 9.0 / 0.3 / 0.1 mm/step]	
Rear – Right Side (Duplex 2nd Side)	
Adjusts the right side erase margin on the reverse side of duplex copie	S.
The actual right side erase margin on the reverse side is this value plus SP2101-6.	the value of
The specification is 2 +2.5/-1.5 mm. See "Replacement and Adjustment" for details.	ent - Copy
[0.0 to 9.0 / 0.3 / 0.1 mm/step]	

Printer - Rear Trailing Edge In printer mode, adjusts the trailing edge erase margin on the reverse side of duplex copies. The actual trailing edge erase margin on the reverse side is this value plus the value of SP2101-7. The specification is 3 ±2 mm. See "Replacement and Adjustment - Copy Adjustment" for details [0.0 to 9.0 / 0.0 / 0.1 mm/step]

2103*	LD Power Adjustment DFU
	[50 to 170 / 129 / 1/step]
	Adjusts the LD power.
	Do not change the value.

2110*		Test Mode dpi	
	Sets the scanning resolution (dpi). DFU		
	2110*	[See below / 8 / Oto 18]	
	2110	0: 400x400 dpi	
		4: 300x300 dpi	
		8: 600x600 dpi	

2201*	Development Bias Adjust
	Printing
1	Adjusts the development bias during printing.
·	This can be adjusted as a temporary measure if faint copies appear due to an aging drum.
	[-1500 to -200 / -650 / 1 V/step]

	ID Sensor Pattern
	Adjusts the development bias for making the ID sensor pattern.
2	The actual development voltage for the ID sensor pattern is this value plus the value of SP2201-1.
	This should not be used in the field, because it affects ID sensor pattern density, which affects toner supply.
	[0 = N (200V) / 1 = H (240V) / 2 = L (160V) / 3 = HH (280V) / 4 = LL (120V)]

2210*	Bias Off Time
	Charge Bias DFU
	Adjusts the charge voltage (-1200V) application time.
1	When the charge voltage and development bias are turned off at the same time, toner or carrier will be attracted to the drum. To reduce the toner or carrier attraction, the machine applies –1200V to the charge roller before the development bias is turned off. This SP adjusts the time for applying the charge. [0 to 150 / 100 / 1 ms /step]
	Development Bias DFU
2	Adjusts the development bias off time.
	[-120 to 120 / 80 / 1ms/step]

	PCU Reverse Interval
	Adjusts the PCU reverse interval for cleaning during a job.
2211*	When the machine has made this number of copies in the middle of a job, the machine reverses to clean the edge of the cleaning blade. After cleaning, the machine resumes the job. Set to a shorter interval if thin white lines appear on printouts.
	[0 to 999 / 100 / 1 sheet/step]
	0: Never cleans during job

	2213*	Copies After Toner Near End
		Selects the number of copies that can be made after toner near-end has been detected.
		[0 = 50 pages / 1 = 20 pages]
		If the user normally makes copies with a high proportion of black, reduce the interval.

2220*	Vsg/V/Vsdp/Vt/Vts Disp	olay
1	V	
2	Vsg	
3	Vsdp	Displays the individual Vt, Vsg, Vsp, Vsdp, and Vts values.
4	Vt	
5	Vts	

2301*	Transfer Current Adjust
	Normal Paper
1*	Adjusts the current applied to the transfer roller during copying from a paper tray when the user uses the "Normal" paper setting.
	If the user normally feeds thicker paper from a paper tray, use a higher setting.
	$[0 = -2 \mu A / 1 = 0 \mu A / 2 = +2 \mu A / 3 = +4 \mu A]$
	Thick/Thin Paper
	Adjusts the current applied to the transfer roller during copying from the by-pass tray. These settings are also used if the 2nd tray is used and special paper is selected.
2*	If the user normally feeds thicker paper from the by-pass tray/2nd tray (special paper), use a higher setting. If waste toner is re-attracted from the drum (this can occur when using an OHP sheet), use a higher setting.
	$[0 = -2 \mu A / 1 = 0 \mu A / 2 = +2 \mu A / 3 = +4 \mu A]$
	Duplex Side 2
3*	Adjusts the current applied to the transfer roller during copying from the duplex unit when the user uses the "Normal" paper setting.
	Use this SP when the image on the rear side of the paper has a problem caused by poor image transfer.
	$[0 = -2 \mu A / 1 = 0 \mu A / 2 = +2 \mu A / 3 = +4 \mu A]$
	Cleaning
	Adjusts the current applied to the transfer roller during roller cleaning.
4*	If toner remains on the roller after cleaning (dirty background appears on the rear side of the paper), increase the current.
	[-10 to 0 / -4 / 1 µA /step]

5	Input – Front DFU
6	Input – Rear DFU
	Temp Inside the Machine
7	Displays the temperature measured inside the machine just after power-on (by the thermistor on the SBCU board) the last time that the fusing unit was less than 40°C just after the machine was switched on. The transfer current is corrected in accordance with this value.

	Developer Initialization	
2801	Initializes the developer and resets the TD and ID sensor outputs to their defaults. Do this SP after you fill the PCU with developer at machine installation and every time developer is replaced.	

		Developer Mixing	
		Mixes the developer and checks Vt. The machine mixes the developer for 2 minutes and while doing this, it reads the TD sensor output (Vt). It does not initialize the TD sensor output.	
		If the machine has not been used for a long time, prints may have a dirty background. In this case, use this SP mode to mix the developer.	

	2803*	Developer Initialization Data SP2803 RTB 53: Corrected
	1	Vts
		When the machine detects a new PCU (photoconductor unit) in the machine, it checks the heat seals at the creation of the first ID sensor pattern. After the agitator is rotated for 30 sec., the machine creates the second ID sensor pattern and corrects the reference value of the TD sensor. The corrected reference value for the TD sensor is recorded here.
	2	ID Sensor PWM Value
		Displays the PWM value of the ID sensor after performing the developer initialization.

2901*	Separation Voltage Adj	
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	Front – Leading Edge
1	Adjusts the voltage that is applied to the separation plate during printing at the leading edge of the paper on the front side.
	If the copies have pawl marks at the leading edge, increase this voltage.
	[-4000 to -1000 / -1800 / 1 V/step]
	Front – Image Area
2	Adjusts the voltage that is applied to the separation plate during printing on the image area of the paper on the front side.
	If the copies have pawl marks in the image area, increase this voltage.
	[-4000 to -1000 / -1800 / 1 V/step]
	Rear – Leading Edge
3	Adjusts the voltage applied to the separation plate, during printing at the leading edge of the paper on the rear side.
	See SP2901 1.
	[-4000 to -1000 / -2100 / 1 V/step]
	Rear – Image Area
2	Adjusts the voltage applied to the separation plate, during printing at the image area of the paper on the rear side.
	See SP2901 2.
	[-4000 to -1000 / -2100 / 1 V/step]

2902*	Test Pattern
	Prints the test patterns. Select the number of the test pattern that you want to print. When adjusting the printing registration, select no.10 (Trimming Area Pattern). [0 to $24 / 0 / 1$ step]

Test Patterns for SP2902

0	None	13	Checker Flag Pattern
1	Vertical Line (1 dot)	14	Black Band (Vertical)
2	Horizontal Line (1 dot)	15	Independent Pattern (4 dot)
3	Vertical Line (2 dot)	16	Grayscale Horizontal

4	Horizontal Line (2 dot)	17	Grayscale Vertical
5	Grid Pattern 1	18	Grayscale Vertical Horizontal
6	Independent Pattern (1 dot)	19	Grayscale Grid
7	Independent Pattern (2 dot)	20	Grayscale (Horizontal Margin)
8	Full Dot Pattern	21	Grayscale (Vertical Margin)
9	Black Band (Horizontal)	22	Grayscale (Ver Hor Margin)
10	Trimming Area	23	All White Pattern
11	Argyle Pattern	24	Trimming Area Or Out
12	Hounds Tooth Check (2 dot Hor)		

2906*	Tailing Correction
	Shift Value
	Shifts the image across the page at the interval specified by SP2906 2.
1	When making many copies of an original that contains vertical lines (such as a table), separation may not work correctly, then a tailing image will occur (ghosts of the vertical lines will continue past the bottom of the table). This SP prevents this problem.
	[0.0 to 1.0 / 0.0 / 0.1 mm/step]
	Interval
2	Changes the interval for the image shift specified by SP2906 1. [0 to 10 / 0 / 1 page/step]

2907*	Filter Setting	
	Adjusts the line width for the copy mode. The default setting disables this function. A number smaller than the default makes lines thinner, a number larger than the default makes litthicker.	
1	Text: Multilevel Copy	[0 to 10 / 5 / 1 step]
2	Photo: Multilevel Copy	[0 to 10 / 5 / 1 step]

3	Text/Photo: Multilevel Copy	
4	Pale: Multilevel Copy	[0 to 10 / 5 / 1 step]
5	Generation: Multilevel Copy	

		Forced Toner Supply
		Forces the toner bottle to supply toner to the toner supply unit.
	2908	Press Execute on the touch panel to start.
	During this process, the machine supplies toner until the toner concentration in the development unit reaches a standard level. However, if the toner concentration does not reach a standard level, the machine supplies toner for 2 minutes maximum.	

2909*	Main Scan Magnification Adj
2909	[-0.5 to 0.5 / 0.0 / 0.1%/step]
	Copy: Short Edge Feed
	Adjusts the main scan magnification in copy mode when the machine feeds the paper in the short edge feed orientation.
	Printer: Short Edge Feed
2	Adjusts the main scan magnification in printer mode when the machine feeds the paper in the short edge feed orientation.
	Copy: Long Edge Feed
3	Adjusts the main scan magnification in copy mode when the machine feeds the paper in the long edge feed orientation.
	Printer: Long Edge Feed
4	Adjusts the main scan magnification in printer mode when the machine feeds the paper in the long edge feed orientation.

	Margin Adjust for By-pass	
2910*	Adjusts the blank margin at the trailing edge of paper fed from the by-pass table.	
	[-9.0 to +9.0 / 0 mm / 0.1 mm/step]	

2913*	ID Test Pattern
	Adjusts the image density level for black pixels on test pattern printouts (patterns are made with SP2902)
	[0 to 15 / 15 / 1/step]
	This SP affects all test patterns except for the grayscale test patterns.

2915*	Polygon Motor Idling Time	
	Selects the polygon motor idlin	g time.
	The polygon motor starts rotating up to its operation speed if the user 1) sets an original, 2) touches a key, or 3) opens the platen cover or document feeder. This shortens the time to the first copy. However, with the default (10 s) set, the motor stops if the user does nothing for 10 s after doing one of the actions above, and stops 10 s at the end of a job.	
	Note : If set at "0", the polygon motor never turns off during stand-by. However, when the machine goes into energy saver mode, the polygon motor turns off regardless of this timer.	
1	Idling Time Adj.	[0 40/10/1]
2	Post Idling Time Adj.	[0 to 60/10/1]

2921*	Toner Supply Mode
	Selects the toner supply mode.
	[0 = Normal 1 / 1 = Normal 2 / 2 = Fixed 1 / 3 = Fixed 2]
	Normally, only use setting 0. Change to 3 temporarily if the TD sensor is defective. Do not use settings 1 and 2; these are for designer's use only.

2922*	Toner Supply Time	
		Adjusts the toner supply motor on time for sensor supply mode.
	2922*	This SP is effective only when SP2921 is "0" or "1".
	[0.1 to 5.0 / 0.6 / 0.1 s/step]	
		Increasing this value increases the toner supply motor on time. So, use a high value if the user tends to make lots of copies that have a high proportion of black.

	Toner Recovery Time
2923*	Adjusts the toner supply motor on time during recovery from toner near-end/end.
	This SP is effective only when SP2921 is "0", "1", or "2".
	[1 to 60 / 30 / 1 s/step]
	Note that toner recovery is done in a 3-second cycle. So, the input value should be a multiple of 3 (e.g. 3, 6, 9). See "Toner Density Control" for more details.

2925*	Toner Supply Ratio	
	Adjusts the toner supply rate for fixed toner supply mode.	
	This SP is effective only when SP2921 is "2" or "3".	
	Increasing this value increases the toner supply motor on time. So, use a high value if the user tends to make lots of copies that have a high proportion of black. See "Toner Density Control" for more details.	
	[0 to 7 / 0 / 1/step]	
	0: t, 1: 2t, 2: 4t, 3: 8t, 4: 12t, 5: 16t, 6: On continuously, 7: 0 s	
	t: 200 ms	

	Standard Vt DFU
2926*	Adjusts Vts (Vt for a new PCU). The TD sensor output is adjusted to this value during the TD sensor initial setting process. This SP is effective only when SP2921 is "0", "1", or "2". [0.00 to 5.00 / 2.50 / 0.05 V/step]

2927*	ID Sensor Control	
		Selects whether the ID sensor is used or not for toner density control.
	[0 = No / 1 = Yes]	
		If this value is "O", dirty background may occur after the machine has not been used for a long time.

	Toner End Clear
	Clears the toner end condition. Press Execute on the touch panel to clear the toner end condition without adding new toner.
	When you press Execute, the following are cleared:
2928*	Toner end indicator (goes out)
	Toner near-end counter
	Toner near-end level
	When making a lot of copies after changing this setting to "1", the carrier may be attracted to the drum when the toner runs out, which may damage the drum.

2929*	Vref Adjustment
1	Upper Limit
I	Adjusts the upper limit for Vref. [0.5 to 3.5 / 3.10 / 0.05 V/step]
2	Lower Limit
2	Adjusts the lower limit for Vref. [0.5 to 3.5 / 1.40 / 0.05 V/step]

2930*	TD Sensor Manual Setting
	Adjusts the TD sensor output. DFU
	[0 to 5 / 0.0V / 0.05V/step]

	TD (V/wt%) Setting
2931*	Adjusts the TD sensor sensitivity (coefficient: S) for toner density control. DFU
	[0.01 to 1.50 / 0.4 / 0.01/step]

		Toner Density Control Level	
	2932*	Adjusts the toner density control threshold level.	
2,32	[0 = Normal / 1 = Dark / 2 = Light / 3 = Darker / 4 = Lighter]		
		Use this SP when you want to adjust the image density.	

	ID Sensor Control Correction
2933*	Adjusts the ID sensor control coefficient. DFU
	[0.5 to 3 / 1 / 0.1/step]

2934*	ID Sensor PWM Setting	
1	Display	Displays the PWM of the ID Sensor LED.
	Upper Limit Correction	
3	Corrects the upper limit of the PWA	of for the ID sensor LED. DFU
	[0 to 255 / 100 / 1/step]	

		ID Sensor Initialization	
2935	Performs the ID sensor initial setting.		
		Press Execute on the touch panel to start. Perform this setting after replacing or cleaning the ID sensor.	

	Original PCU ID South Korea only		
2989	Displays the ISSUER CODE of the loaded PCU. The history of the PCU ID codes is stored in NVRAM for display.		
1	Latest	Most current code (in use).	
2	Last 1		
3	Last 2	Up to four issuer codes of toner lots in the same series can be stored. If a PCU with a new series code is set, then the new code replaces the history of the	
4	Last 3	previous PCU.	
5	Last 4		

	Original To	oner ID South Korea only	
2990	Displays the ISSUER CODE of the loaded toner. The history of the toner ID codes are stored in NVRAM for display.		
1	Latest	Latest Most current code (in use).	

ı			
	2	Last 1	
	3	Last 2	Up to four issuer codes of toner lots in the same series can be stored. If toner with a new series code is set, then the new code replaces the history of the
	4	Last 3	previous toner.
	5	Last 4	

	Original To	oner Counter South Korea only	
2991		Displays the page counts for the issuer code history. [0 to 65535 / 0 / 1]	
1	Latest		
2	Last 1	This SP displays the page counts for each successive issuer code. See SP2990 above.	
3	Last 2		
4	Last 3		
5	Last 4		

	Copies After TD Sensor Error		
2992*	Selects the number of copies that can be made after a TD sensor error has been detected. When the machine copies this amount, an SC condition will occur. If the optional fax unit is installed, the SC condition occurs immediately regardless of the number of prints (this is because the sender of the fax cannot check the image quality of the printout).		
1	0:100 Pages 1:200 Pages	[0 or 1 / 0 / -] 0:100 Pages, 1:200 Pages	

	ISSUER CODE Ref South Korea Only
2993*	Sets the standard issuer code, once it has been determined.
	[0 to 9999 / 0 / 1]

2995* ID Sensor Detection Interval	
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	Warming-up
1	This SP controls the temperature at which the ID sensor pattern is created after the machine is turned on, or after the machine returns to full operation from the energy saver or auto off mode.
	[0 to 255 / 30 / 1 degree]
	Number of Pages
2	The machine makes an ID sensor pattern after the specified number of prints has been made.
	[0 to 999 / 300 / 1 sheet/step]
3	Job End/Interrupt
	Determines when the ID sensor reads the ID sensor pattern.
	0: Job End. Read pattern at job end.
	1: Interrupt. Read pattern at interval set with SP2995-2, even if the job is not completed.

2996	Transfer Roller Cleaning
2990	These SP codes determine how the transfer roller is cleaned.
	0:OFF 1:ON
1	Selects whether the transfer roller is cleaned. Transfer roller cleaning is necessary only when black spots occur in the image areas of copies. This can occur when bad environmental conditions increase the toner density.
	Set this to "1" when dirty background appears on the reverse side of the first page of a copy job. However, the first copy time will be longer regardless of the SP2996 001 setting. [0 = No / 1 = Yes]
	Interval
	This SP sets the page interval for transfer roller cleaning when SP2996 001 is set to "1" (Yes). Increase this setting only when absolutely necessary. A higher setting increases wear on the PCU.
2	[0to100/50/1 sheets]
	Note: This SP does not execute for the first copy after power on or when the machine returns from the energy save or auto off mode.
	This SP setting does cannot correct poor copies if there is a problem with the TD sensor.

2998*	PCU Reverse Rotation Time DFU
	Wait Time
1	Adjusts the waiting time for starting to rotate the drum in reverse after the end of each job. The wait time calculation formula is as follows.
I	[0 to 999 / 300 / 1]
	This SP is adjusted in units of 30 ms (1 step = 30 ms, 2 steps = 60 ms, etc.)
	If "O" is selected, the drum reverses immediately at the end of the job.
	Reverse Time
	Adjusts the drum reverse rotation time.
2	[0 to 99 / 60 / 1]
	This SP is adjusted in units of 60 ms (1 step = 6 ms, 2 steps = 12 ms, etc.)
	If "O" is selected, the drum does not reverse at the end of the job.
	Brake Time
	Adjusts the length of time of braking to stop reverse rotation of the drum.
	[0 to 99/0/1]
3	This SP is adjusted in units of 6 ms (1 step = 6 ms, 2 steps = 12 ms, etc.)
	If "O" is selected, the drum stops reverse rotation immediately.
	Note: Adjust the SP only if the PCU makes noise during braking when the drum rotation slows. To reduce or eliminate the noise, select a lower setting to reduce the braking time.

System SP Tables-3

SP3xxx

There are no Group 3 SP codes for this machine.

4

System SP Tables-4

SP4xxx: Scanner

	Scanner Sub Scan Magnification ADJ
4008*	Adjusts the magnification of the sub scan direction during scanning. Changing this value changes the scanner motor speed. Press $^{\bigodot}$ to toggle \pm .
	[-1 to 1 / 0 / 0.1%]

4010*		Scanner Leading Edge Registration ADJ
	0*	Adjusts the leading edge registration for scanning. Press to to toggle ±. [-2 to 2 / 0 / 0.1 mm]
		As you enter a negative value, the image moves toward the leading edge.

		Scanner Side-to-side Registration ADJ
	4011*	Adjusts side-to-side registration for scanning. Press to toggle ±. C: [-2.5 to +2.5 / 0.0 / 0.1 mm step]
	4011*	M: [-4.2 to +4.2 / 0.0 / 0.1 mm step]
	As you enter negative values, the image will disappear at the left, and as you enter positive values, the image will appear at the left.	

4012*	Scanner Erase Margin: Scale	
	Adjusts the erase margin at each side for scanning in book mode and ADF mode. Note Do not adjust this unless the user wishes to have a scanner margin that is greater that the printer margin. These settings are adjusted to erase shadows caused by the gap between the origin	
	and the scale of the scanner unit.	
1	Book: Leading Edge	[0 to 3.0 / 1.0 / 0.1 mm / step]
2	Book: Trailing Edge	[0 to 3.0 / 0.0 / 0.1 mm / step]
3	Book: Left	[0 to 3.0 / 1.0 / 0.1 mm / step]

4	Book: Right	[0 to 3.0 / 0.0 / 0.1 mm / step]
5	ADF: Leading Edge	
7	ADF: Right	
8	ADF: Left	

4013	Scanner Free Run	
4013	Performs a scanner free run with the exposure lamp on or off.	
001	Lamp: ON	[0 to 1 / 0 / 1]
002	Lamp: OFF	0=Off, 1=On

	Scanner Free Run	
4014	Performs a scanner free run with the Note: The free run is done for full size	·
1	HP Detection Enable	Touch [Execute] to start this feature.
2	HP Detection Disable	• Press the (Clear/Stop) key to stop.

	ADF Scan Glass Dust Check
4020	This function checks the narrow scanning glass of the ADF for dust that can cause black lines in copies. If dust is detected a system banner message is displayed, but processing does not stop.
	Check On/Off Change
	Issues a warning if there is dust on the narrow scanning glass of the ADF when the original size is detected before a job starts. This function can detect dust on the white plate above the scanning glass, as well as dust on the glass. Sensitivity of the level of detection is adjusted with SP4020 2.
1	[0 to 1 / 0 / 1]
	0: Off. No dust warning.
	1: On. Dust warning. This warning does not stop the job.
	↓ Note
	Before switching this setting on, clean the ADF scanning glass and the white plate above the scanning glass.

	Detect Level
	Adjusts the sensitivity for dust detection on the ADF scanning glass. This SP is available only after SP4020 1 is switched on.
	[0 to 8 / 4/1]
2	If you see black streaks in copies when no warning has been issued, raise the setting to increase the level of sensitivity. If warnings are issued when you see not black streaks in copies, lower the setting.
	Note : Dust that triggers a warning could be removed from the glass by the originals in the feed path. If the dust is removed by passing originals, this is not detected and the warning remains on.
3	Correction Level
	Selects the level of the sub scan line correction when using the ARDF.
	[0 to 4 / 0 / 1 /step]
	0: Off, 1: Weakest, 2: Weak, 3: Strong, 4: Strongest

4301		APS Scanner Output Display	
	Displays the status of the APS sensors and platen/DF cover sensor (see "APS Output Display").		

	APS A5/LT Size Detection	
	Selects if the copier defaults to A5 SEF/LEF if the APS sensor cannot detect the size of a small original.	
4303*	[0 to 2/0/1]	
	0: No Original (Not detected as A5)	
	1: A5-Lengthwise (Detected as A5 SEF)	
	2: A5-Sideways (Detected as A5 LEF)	

	Original Size Detection
	Selects whether the machine determines that the original is A4/LT, or 8K/16K.
	8K/16K is not available for USA models.
4305*	[0 = Normal (LT for USA models, A4 for Europe/Asia models)
	1 = A4-Sideways LT-Lengthwise
	2 = LT-Sideways A4-Lengthwise
	3 = 8K/16K]

4.400	Scanner Erase Margin		
4400	These SPs set the area to be masked during platen (book) mode scanning.		
1	Book: Leading Edge		
2	Book: Trailing Edge	[0, 20/00/01 /, 1	
3	Book: Left	[0 to 3.0 / 0.0 / 0.1 mm/step]	
4	Book: Right		
5	ADF: Leading Edge	[0 to 3.0 / 2.0 / 0.1 mm/step]	
7	ADF: Right	[0+-20/0/01/]	
8	ADF: Left	[0 to 3.0 / 0 / 0.1 mm/step]	

	IPU Test Pattern			
	Selects the IPU test Pattern.			
		[0 to 28 / 0 / 1]		
		0: Scanned image	15: Gray pattern (1)	
		1: Gradation main scan A	16: Gray pattern (2)	
		2: Gradation main scan B	17: Gray pattern (3)	
		3: Gradation main scan C	18: Shading pattern	
	Test Pattern Selection	4: Gradation main scan D	19: Thin line pattern	
4417		5: Gradation sub scan (1)	20: Scanned + Grid pattern	
4417		6: Grid pattern (1)	21: Scanned + Grid scale	
		7: Slant grid pattern	22: Scanned + Color patch	
		8: Gradation K	23: Scanned + Slant Grid C	
		9: Check pattern 16	24: Scanned + Slant Grid D	
		10: Gray patch 16 (1)	25: Gray Scale 18 text	
		11: Gray patch 16 (2)	26: Gray Scale 18 photo	
		12: Gray patch 64	27: Gray Scale 256 text	
		13: Grid pattern (2)	28: Gray Scale 256 photo	
		14: Color patch K		

4429	ICI Output Selectio	n
4429	Adjusts the ICI density level.	
1	Сору	
2	Scanner	[0 to 3 / 3 / 1 /step]
3	Fax	

4450	Scan Image Path Detection
4450	Determines the method of image path detection.

1	Black Reduction ON/OFF	Switches black image path detection on/off: 0: ON, 1: OFF
2	SH ON/OFF	Switches shading image path detection on/off 0: OFF, 1: ON

4460	Digital AE Setting		
	Specifies the detection threshold for background deletion in ADS mode.		
1	Lower Limit	CS: [0 to 1020 / 364 / 4 digit] MS: [0 to 1020 / 408 / 4 digit]	
2	Background Level	[512 to 1532 / 972 / 1 digit/step]	

	Printer Vector Correction		
4540	This SP corrects the printer coverage for 12 hues (RY, YR, YG, etc. x 4 Colors [R, G, B, Option]) for a total of 48 parameters.		
1-4	RY Phase: Option/R/G/B		
5-8	YR Phase: Option/R/G/B		
9-12	YG Phase: Option/R/G/B		
13-16	GY Phase: Option/R/G/B		
17-20	GC Phase: Option/R/G/B		
21-24	CG Phase: Option/R/G/B	Specifies the printer vector correction value.	
25-28	CB Phase: Option/R/G/B	[0 to 255 / 0 / 1 /step]	
29-32	BC Phase: Option/R/G/B		
33-36	BM Phase: Option/R/G/B		
37-40	MB Phase: Option/R/G/B		
41-44	MR Phase: Option/R/G/B		
45-48	RM Phase: Option/R/G/B		

4550*	Scanner: Text/Chart
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4551*	Scanner: Text			
4552*	Scanner: Text (Dr	Scanner: Text (Dropout Color)		
4553*	Scanner: Text/Photo			
4554	Scanner: Photo			
4565	Scanner: Graysco	ale		
4570	Scanner: Color: T	ext/Photo		
4571	Scanner: Color: T	ext/Photo		
4572	Scanner: Color: A	Auto Color		
5	MTF: 0(Off), 1-1	5 (On)		
	[0 to 15 / 8 / 1 /step] 0: MTF Off When the CCD converts the original image to electrical signals, the contrast is reduced due to the influence that adjacent white and black pixels have on one another as a result			
	of lens properties. Typically, you may see very narrow width and spacing between black and white areas. MTF corrects this problem and emphasizes image detail.			
6	Smoothing	Selects the level of smoothing for originals that contain dithered images. [0 to 7 / 4 / 0 / step] O: Default (Off) → 7: Strongest		
7	Brightness	Sets the overall brightness of the image. [1 to 255/128/1] 1: Weakest ← 128: Default → 255: Strongest		
8	Contrast	Sets the overall contrast of the image. [1 to 255/128/1] 1: Weakest ← 128: Default → 255: Strongest		
9	Ind. Dot Erase	Sets the level of independent dot erasure to improve the appearance of background. [0 to 7/0/1] 0: Default (Off) → 7: Strongest		

4580	Fax: Text/Chart			
4581	Fax: Text			
4582	Fax: Text/Photo	Fax: Text/Photo		
4583	Fax: Photo			
4584	Fax: Original 1			
4585	Fax: Original 2			
5	MTF: 0(Off), 1-15 (O	n)		
	[0 to 15 / 8 / 1 /step] 0: MTF Off When the CCD converts the original image to electrical signals, the contrast is reduced due to the influence that adjacent white and black pixels have on one another as a result of lens properties. Typically, you will see very narrow width and spacing between black and white areas. MTF corrects this problem and emphasizes image detail.			
6	Smoothing	Selects the level of smoothing for originals that contain dithered images. [0 to 7 / 4 / 0 / step] 0: Default (Off) → 7: Strongest		
7	Brightness	Sets the overall brightness of the image. [1 to 255/128/1] 1: Weakest ← 128: Default → 255: Strongest		
8	Contrast	Sets the overall contrast of the image. [1 to 255/128/1] 1: Weakest ← 128: Default → 255: Strongest		
9	Ind. Dot Erase	Sets the level of independent dot erasure to improve the appearance of background. [0 to 7/0/1] 0: Default (Off) → 7: Strongest		

		Sets the erasure level of textures. Set higher for stronger effect, lower for weaker effect.
10	Text Erasure	[0 to 2 / 0 / 1 /step]
		0: Not activated
		Note: This SP code exists for SP4580, SP4582 and SP4583 only.

4600	SBU Version
4000	Displays the version number of the SBU.

4602	Scanner Memory Erase	
1	Scanner Memory Access	Enables the read and write check for the SBU registers.
2	Address Setting	Not used.
3	Data Set	Noi usea.

4603		AGC Execution DFU
		Executes the AGC.
	1	HP Detection Enable
	2	HP Detection Disable

	FGATE Open/Close
	Opens or closes the FGATE signal. This SP automatically returns to the default status (close) after exiting this SP.
	[0 or 1 / 0 / 1/step]
	0: OFF, 1: ON
4604	Note:
	 When the registration sensor goes ON, the BCU generates the FGATE signal and sends it to the LD units.
	As soon as the LD units receive the FGATE signal, they send a feedback signal to the BCU.
	SC230, SC231 if the FGATE signal fails to switch on or off.

4606	White Balance Target: R
	This SP code sets the target values for R (Red) during white level adjustment.
	[0 to 1023 / 784 / 1 digit/step]

4607	White Balance Target: G	
	This SP code sets the target values for G (Green) during white level adjustment.	
	CS: [1023 to 0 / 784 / 1 digit]	
	MS: [1023 to 1 / 876 / 1 digit]	

4608 White Balance Target: B	
	This SP code sets the target values for B (Blue) during white level adjustment.
	[0 to 1023 / 784 / 1 digit/step]

	Black Level Rough/Fine Ad	j. Display
4623	Note: • RE: Red Even signal	
	RO: Red Odd signal	
1	Latest: RE Color	Displays the black offset value (rough adjustment) for the even red signal in the CCD circuit board (color printing speed).
		[0 to 255 / 128 / 1 digit/step]
2	Latest: RO Color	Displays the black offset value (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed).
3	Latest: RE Color	Displays the black offset value (fine adjustment) for the even red signal in the CCD circuit board (color printing speed).
4	Latest: RO Color	Displays the black offset value (fine adjustment) for the odd red signal in the CCD circuit board (color printing speed).
5	Latest: RE BW	Displays the black offset value (rough adjustment) for the even red signal in the CCD circuit board (black and white printing speed).
		[0 to 255 / 128 / 1 digit/step]

6	Latest: RO BW	Displays the black offset value (rough adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).
7	Latest: RE BW	Displays the black offset value (fine adjustment) for the even red signal in the CCD circuit board (black and white printing speed).
8	Latest: RO BW	Displays the black offset value (fine adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).

4624	Black Level Rough/Fine Ad	j. Display
	Note: GE: Green Even signa GO: Green Odd signa	
1	Latest: GE Color	Displays the black offset value (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
2	Latest: GO Color	Displays the black offset value (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed).
3	Latest: GE Color	Displays the black offset value (fine adjustment) for the even green signal in the CCD circuit board (color printing speed).
4	Latest: GO Color	Displays the black offset value (fine adjustment) for the odd green signal in the CCD circuit board (color printing speed).
5	Latest: GE BW	Displays the black offset value (rough adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]
6	Latest: GO BW	Displays the black offset value (rough adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).

7	Latest: GE BW	Displays the black offset value (fine adjustment) for the even green signal in the CCD circuit board (black and white printing speed).
8	Latest: GO BW	Displays the black offset value (fine adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).

4625	Black Level Rough/Fine Adj. Display (CS model only)
	Latest: BE Color
001	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (rough adjustment) for the even blue signal in the SBU (color printing speed).
	Latest: BO Color
002	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (rough adjustment) for the odd blue signal in the SBU (color printing speed).
	Latest: BE Color
003	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (fine adjustment) for the even blue signal in the SBU (color printing speed).
	Latest: BO Color
004	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (fine adjustment) for the odd blue signal in the SBU (color printing speed).
	Latest: BE B/W
005	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (rough adjustment) for the even blue signal in the SBU (black and white printing speed).

006	Latest: BO B/W
	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (rough adjustment) for the odd blue signal in the SBU (black and white printing speed).
	Latest: BE B/W
007	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (fine adjustment) for the even blue signal in the SBU (black and white printing speed).
	Latest: BO B/W
008	[0 to 255 / 128 / 1 digit]
	Displays the black offset value (fine adjustment) for the odd blue signal in the SBU (black and white printing speed).

4628	Gain Adjustment Display		
4028	Displays the gain value of the amplifiers on the controller for Red.		
1	Latest: RE Color		
2	Latest: RO Color	[0., 0.55 / 0 / 1 / 5:4/4]	
3	Latest: RE BW	[0 to 255 / 0 / 1 digit/step]	
4	Latest: RO BW		

4629	Gain Adjustment Display	
4029	Displays the gain value of t	the amplifiers on the controller for Green.
1	Latest: GE Color	
2	Latest: GO Color	[0 to 255 / 0 / 1 digit/step]
3	Latest: GE BW	
4	Latest: GO BW	

4630	4420	Gain Adjustment Display
		Displays the gain value of the amplifiers on the controller for Blue.

1	Latest: BE Color	[0 to 255 / 0 / 1 digit/step]
2	Latest: BO Color	
3	Latest: BE BW	
4	Latest: BO BW	

	SBU Black Level Loop		
4640	Displays the black level adjustment time for each mode. The black level adjustment is done twice. The 1st loop decides the reference value for the 2nd loop.		
1	Loop Count 1 st: Color	1 st adjustment	
2	Loop Count 1 st: B/W	[0 to 20 / 0 / 1 /step]	
3	Loop Count 2nd: Color	2nd adjustment	
4	Loop Count 2nd: B/W	[0 to 20 / 0 / 1 /step]	

4641	SBU White Level Loop		
4041	Displays the white level adjustment time for each mode.		
1	Loop Count: Color	[0 to 20 / 0 / 1 /step]	
2	Loop Count: B/W		

	SBU Timeout Error	
4646*	Use this SP to determine whether the a the prescribed number of loops and flo	utomatic scanner adjustment loop has exceeded agged a timeout.
1	Black Level Adjustment 1	0: OK
2	Black Level Adjustment 2	1: AGC adjustment failure

	White Level Adjustment	[0 x 0000 to 0 x 003F / 0 / 1 Hex]	
	Bit 0: Gain adjustment error (even)		
	Bit 1: Gain adjustment error (odd)		
3	Bit 2: White level error (RE)		
	Bit 3: White level error (RO)		
	Bit 4: White level error (BE)		
	Bit 5: White level error (BO)		

4647	SBU Error	
4047	Displays the result of the SBU connection check.	

4654	Black Level 1: Rough/Fine A	dj. Display
4034	RE: Red Even signal, RO: Red Odd signal	
1	Previous: RE Color	Displays the previous black offset value (rough adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]
2	Previous: RO Color	Displays the previous black offset value (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed).
3	Previous: RE Color	Displays the previous black offset value (fine adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
4	Previous: RO Color	Displays the previous black offset value (fine adjustment) for the odd red signal in the CCD circuit board (color printing speed).
5	Previous: RE BW	Displays the previous black offset value (rough adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]

6	Previous: RO BW	Displays the previous black offset value (rough adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).
7	Previous: RE BW	Displays the previous black offset value (fine adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]
8	Previous: RO BW	Displays the previous black offset value (fine adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).

4655	Black Level 1: Rough/Fine Adj. Display	
4033	GE: Green Even signal, GO: Green Odd signal	
1	Previous: GE Color	Displays the previous black offset value (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]
2	Previous: GO Color	Displays the previous black offset value (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed).
3	Previous: GE Color	Displays the previous black offset value (fine adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
4	Previous: GO Color	Displays the previous black offset value (fine adjustment) for the odd green signal in the CCD circuit board (color printing speed).
5	Previous: GE BW	Displays the previous black offset value (rough adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]
6	Previous: GO BW	Displays the previous black offset value (rough adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).

7	Previous: GE BW	Displays the previous black offset value (fine adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]	
8	Previous: GO BW	Displays the previous black offset value (fine adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).	

4656	Black Level 1: Rough/Fine Adj. Display		
4030	BE: Blue Even signal, BO: Blue Odd signal		
1	Previous: BE Color	Displays the previous black offset value (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]	
2	Previous: BO Color	Displays the previous black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed).	
3	Previous: BE Color	Displays the previous black offset value (fine adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]	
4	Previous: BO Color	Displays the previous black offset value (fine adjustment) for the odd blue signal in the CCD circuit board (color printing speed).	
5	Previous: BE BW	Displays the previous black offset value (rough adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]	
6	Previous: BO BW	Displays the previous black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).	
7	Previous: BE BW	Displays the previous black offset value (fine adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]	
8	Previous: BO BW	Displays the previous black offset value (fine adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).	

47.50	Gain Adjustment Display		
4658	Displays the previous gain value of the amplifiers on the controller for Red.		
1	Previous: RE Color		
2	Previous: RO Color	[O. O. O. F. / A. / 1 . Horts / A]	
3	Previous: RE BW	[0 to 255 / 64 / 1 digit/step]	
4	Previous: RO BW		

4659	Gain Adjustment Display		
4039	Displays the previous gain value of the amplifiers on the controller for Green.		
1	Previous: GE Color		
2	Previous: GO Color	[0. 055 /// / 1 : ::/.]	
3	Previous: GE BW	[0 to 255 / 64 / 1 digit/step]	
4	Previous: GO BW		

4660	Gain Adjustment Display	
	Displays the previous gain value of the amplifiers on the controller for Blue.	
1	Previous: BE Color	[0 to 255 / 64 / 1 digit/step]
2	Previous: BO Color	
3	Previous: BE BW	
4	Previous: BO BW	

4661	Black Level 2: Rough/Fine Adjustment Display	
	RE: Red Even signal, RO: Red Odd signal	
1	Previous: RE Color	Displays the previous 2nd black offset value (rough adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]

2	Previous: RO Color	Displays the previous 2nd black offset value (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed).
3	Previous: RE Color	Displays the previous 2nd black offset value (fine adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
4	Previous: RO Color	Displays the previous 2nd black offset value (fine adjustment) for the odd red signal in the CCD circuit board (color printing speed).
5	Previous: RE BW	Displays the previous 2nd black offset value (rough adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]
6	Previous: RO BW	Displays the previous 2nd black offset value (rough adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).
7	Previous: RE BW	Displays the previous 2nd black offset value (fine adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]
8	Previous: RO BW	Displays the previous 2nd black offset value (fine adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).

4662	Black Level 2: Rough/Fine Adjustment Display	
	GE: Green Even signal, GO: Green Odd signal	
1	Previous: GE Color	Displays the previous 2nd black offset value (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]
2	Previous: GO Color	Displays the previous 2nd black offset value (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed).

3	Previous: GE Color	Displays the previous 2nd black offset value (fine adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
4	Previous: GO Color	Displays the previous 2nd black offset value (fine adjustment) for the odd green signal in the CCD circuit board (color printing speed).
5	Previous: GE BW	Displays the previous 2nd black offset value (rough adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]
6	Previous: GO BW	Displays the previous 2nd black offset value (rough adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).
7	Previous: GE BW	Displays the previous 2nd black offset value (fine adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]
8	Previous: GO BW	Displays the previous 2nd black offset value (fine adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).

4663	Black Level 2: Rough/Fine Adjustment Display	
	BE: Blue Even signal, BO: Blue Odd signal	
1	Previous: BE Color	Displays the previous 2nd black offset value (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 112 / 1 digit/step]
2	Previous: BO Color	Displays the previous 2nd black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed).

3	Previous: BE Color	Displays the previous 2nd black offset value (fine adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 128 / 1 digit/step]
4	Previous: BO Color	Displays the previous 2nd black offset value (fine adjustment) for the odd blue signal in the CCD circuit board (color printing speed).
5	Previous: BE BW	Displays the previous 2nd black offset value (rough adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 112 / 1 digit/step]
6	Previous: BO BW	Displays the previous 2nd black offset value (rough adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).
7	Previous: BE BW	Displays the previous 2nd black offset value (fine adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 128 / 1 digit/step]
8	Previous: BO BW	Displays the previous 2nd black offset value (fine adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).

4470	Black Level 2: Rough/Fine Adjustment Display		
4673	RE: Red Even signal, RO: Red Odd signal		
1	Factory Setting: RE Color	Displays the factory setting values of the black level adjustment for the even red signal in the CCD circuit board (color printing speed) [0 to 255 / 0 / 1 digit/step]	
2	Factory Setting: RO Color	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd red signal in the CCD circuit board (color printing speed).	
3	Factory Setting: RE Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the even red signal in the CCD circuit board (color printing speed). [0 to 255 / 0 / 1 digit/step]	

4	Factory Setting: RO Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd red signal in the CCD circuit board (color printing speed).
5	Factory Setting: RE BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]
6	Factory Setting: RO BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).
7	Factory Setting: RE BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the even red signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]
8	Factory Setting: RO BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd red signal in the CCD circuit board (black and white printing speed).

4674	Black Level 2: Rough/Fine Adjustment Display		
40/4	GE: Green Even signal, GO: Green Odd signal		
1	Factory Setting: GE Color	Displays the factory setting values of the black level adjustment (rough adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 0 / 1 digit/step]	
2	Factory Setting: GO Color	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd green signal in the CCD circuit board (color printing speed).	
3	Factory Setting: GE Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the even green signal in the CCD circuit board (color printing speed). [0 to 255 / 0 / 1 digit/step]	
4	Factory Setting: GO Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd green signal in the CCD circuit board (color printing speed).	

5	Factory Setting: GE BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]	
6	Factory Setting: GO BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).	
7	Factory Setting: GE BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the even green signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]	
8	Factory Setting: GO BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd green signal in the CCD circuit board (black and white printing speed).	

	Black Level 2: Rough/Fine Adjustment Display		
4675	BE: Blue Even signal, BO: Blue Odd signal		
1	Factory Setting: BE Color	Displays the factory setting values of the black level adjustment (rough adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 0 / 1 digit/step]	
2	Factory Setting: BO Color	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd blue signal in the CCD circuit board (color printing speed).	
3	Factory Setting: BE Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the even blue signal in the CCD circuit board (color printing speed). [0 to 255 / 0 / 1 digit/step]	
4	Factory Setting: BO Color	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd blue signal in the CCD circuit board (color printing speed).	

5	Factory Setting: BE BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]
6	Factory Setting: BO BW	Displays the factory setting values of the black level adjustment (rough adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).
7	Factory Setting: BE BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the even blue signal in the CCD circuit board (black and white printing speed). [0 to 255 / 0 / 1 digit/step]
8	Factory Setting: BO BW	Displays the factory setting values of the black level adjustment (fine adjustment) for the odd blue signal in the CCD circuit board (black and white printing speed).

1477	Gain Adjustment Display		
4677	Displays the factory setting values of the gain adjustment for Red.		
1	Factory Setting: RE Color		
2	Factory Setting: RO Color	[0.055 / 0 / 1 / 100 / 100]	
3	Factory Setting: RE BW	[0 to 255 / 0 / 1 digit/step]	
4	Factory Setting: RO BW		

4678	Gain Adjustment Display		
40/6	Displays the factory setting values of the gain adjustment for Green.		
1	Factory Setting: GE Color		
2	Factory Setting: GO Color	[0.1- 255 / 0 / 1]:::::::/	
3	Factory Setting: GE BW	[0 to 255 / 0 / 1 digit/step]	
4	Factory Setting: GO BW		

4679	4470	Gain Adjustment Display	
	40/9	Displays the factory setting values of the gain adjustment for Blue.	

1	Factory Setting: BE Color	
2	Factory Setting: BO Color	[0 to 255 / 0 / 1 digit/step
3	Factory Setting: BE BW	[O to 255 / O / Talgit/ step
4	Factory Setting: BO BW	

4685	Gray Balance Set: R DFU	
4003	Adjusts the gray balance of the red signal for each scanning mode.	
1	Book Scan	CS: [-512 to 511 / -39 / 1 digit]
2	DF Scan	MS: [-512 to 511 / 25 / 1 digit]

4686	Gray Balance Set: G DFU	
4000	Adjusts the gray balance of the green signal for each scanning mode.	
1	Book Scan	CS: [-512 to 511 / -29 / 1 digit]
2	DF Scan	MS: [-512 to 511 / 25 / 1 digit]

	4687	Gray Balance Set: B DFU	
	4007	Adjusts the gray balance o	f the blue signal for each scanning mode.
	1	Book Scan	CS: [-512 to 511 / -20 / 1 digit]
	2	DF Scan	MS: [-512 to 511 / 25 / 1 digit]

	4688	DF: Density Adjustment
		Adjusts the white shading parameter when scanning an image with the DF. Adjusts the density level if the ID of outputs made in the DF and Platen mode is different.
		[50 to 150 / 109 / 1%/ step]

4400	White Peak Level	
4690	Displays the peak level of the white level scanning.	

001	RE	[0 to 1023 / 0 / 1 digit]
002	RO	
003	RE: BK	
004	RO: BK	

4691	White Peak Level		
4091	Displays the peak level of the white level scanning.		
001	GE		
002	GO	[01022 / 0 / 1 dimit]	
003	GE: BK	[0 to 1023 / 0 / 1 digit]	
004	GO: BK		

4692	White Peak Level		
4092	Displays the peak level of the white level scanning.		
001	BE		
002	ВО	[01022 / 0 / 1 dimit]	
003	BE: BK	[0 to 1023 / 0 / 1 digit]	
004	BO: BK		

4693	Black Peak Level		
4093	Displays the peak level of the black level scanning.		
001	RE		
002	RO	[0 1002 / 0 / 1	
003	RE: BK	[0 to 1023 / 0 / 1 digit]	
004	RO: BK		

4404	Black Peak Level		
4694	Display the peak level of the black level scanning.		
001	GE		
002	GO	[0., 1002 / 0 / 1	
003	GE: BK	[0 to 1023 / 0 / 1 digit]	
004	GO: BK		

4695	Black Peak Level		
4093	Display the peak level of the black level scanning.		
001	BE		
002	ВО	[0 1002 / 0 / 1 -:-;1]	
003	BE: BK	[0 to 1023 / 0 / 1 digit]	
004	BO: BK		

4800

	DF Shading Free R	Jn
4802	Executes the scanner free run for shading movement with the exposure lamp on or off. The free run moves the scanning lamp a short distance and immediately returns it to its home position.	
1	Lamp ON	Touch [ON] to start the free run
2	Lamp OFF	Be sure to touch "OFF" to stop the free run.

	Returning to Scanner HP	
4804	Moves the exposure lamp a short distance and immediately returns it to its home position. Touch [Execute]> "Completed"> [Exit].	

Moving from Scanner HP Moves the exposure lamp a short distance away from the home position and stops. • Touch [Execute]> "Completed"> [Exit] • Do SP4804 to return the exposure lamp to its home position. Note • This SP is done before shipping the machine to another location. • Turning the machine power off/on also returns the exposure lamp to its home position.

4903*	Filter Settings		
	This SP code sets the threshold value for independent dot erase. • The "O" setting disables independent dot erase.		
	A higher setting detects more spurious dots for erasing. However, this could condition dots to erase in images that contain areas filled by dithering. Independent Dot Erase: Text/Photo		
1			
2	Independent Dot Erase: Generation	[0 to 7/0/1]	

	Dither Selection DFU
4905*	Changes the parameters for dithering.
	[0 to 255 / 0 / 1 /step]

4906	Filter Setting: Other		
	Outline level Adj	[0/10/0/1]	

4907	SBU Test Pattern Change
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Selects the test pattern generated by the controller board.

[0 to 255 / 0 / 1 /step]

0: Default (Scanning Image)

1: Grid pattern

2: Gradation main scan

3: Gradation sub scan

4 to 250: Default (Scanning Image)

4908 Factory Setting Input DFU	
1	Execution: ON/OFF
2	Execution Flag

4918 Manual Gamma Adjustment **DFU**

	IPU Image Pass [Path] Selection (RGB Frame Memory) DFU		
4991	Selec	Selects the image path. Enter the number to be selected using the 10-key pad.	
	[0 to	11/2/1]	
	0	Scanner input RGB images	
	1	Scanner I/F RGB images	
	2	RGB images done by Shading correction (Shading ON, Black offset ON)	
	3	Shading data	
	4	Inner pattern data: Gray scale	
	5	RGB images done by Line skipping correction	
	6	RGB images done by Digital AE	
	7	RGB images done by Vertical line correction	
	8	RGB image done by Scanner gamma correction	
	9	RGB image done by Filtering correction	
	10	RGB images done by Full color ADS	
	11	RGB image done by Color correction	

4002	Highlight Correction	
4993	Selects the level of highlight correction.	
1	Sensitivity Selection	Selects the Highlight correction level. [0 to 9 / 4 / 1 /step] 0: weakest sensitivity 9: strongest sensitivity
2	Range Selection	Selects the range level of Highlight correction. [0 to 9 / 4 / 1 /step] 0: weakest skew correction, 9: strongest skew correction

	Text/Photo Detection Level Adj.
	Selects the definition level between Text and Photo for high compression PDF.
4994 [0 to 2 / 1 / 1 /step	[0 to 2 / 1 / 1 /step]
	0: Text priority
	1: Normal
	2: Photo priority

System SP Tables-5

SP5xxx: Mode

	mm/inch Selection
Selects whether mm or inc	Selects whether mm or inches are used in the display.
5024*	Note: After selecting the number, you must turn the main power switch off and on.
	Europe/Asia model: [0 = mm / 1 = inch]
	American model: [0 = mm / 1 = inch]

5045	Accounting Counter	
Selects whether the printer counter is displayed on the LCD.		
	[0-1 / 0 / 1]	
O: Displays the total counter only.		
	1: Displays both total counter and printer counter.	

5047	Paper Display	
Determines whether the tray loaded with paper printed on one side is displayed.		
[0 to 1 / 0 / 1]		
0: Not displayed		
1: Displayed		

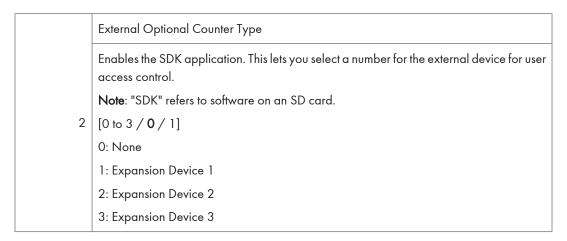
	Display IP Address
5055*	Display or does not display the IP address on the LCD.
	[0 to 1 / 0 / 1]
	0: OFF, 1: ON

5056*	Coverage Counter Display
	Display or does not display the coverage counter on the LCD.
	[0 to 1 / 0 / 1]
	0: Not displayed, 1: Displayed

5104*	A3/DLT Double Count (SSP)
	Specifies whether the counter is doubled for A3/DLT. "Yes" counts except from the bypass tray. When "Yes" is selected, A3 and DLT paper are counted twice, that is A4 x2 and LT x2 respectively.

	Density Level Setting
	Selects the image density level used in ADS mode.
	[1 to 7 / 5 / 1 notch per step]
5106*	Example: If you set SP5106 to "2": Pressing the Auto Image Density key toggles the display off and manual notch 2 is selected.
	Adjust this SP if the customer cannot attain clean copies after performing automatic density adjustment

5113	Optional Counter Type
	Default Optional Counter Type
	Selects the type of counter:
	0: None
	1: Key Card (RK3, 4) Japan only
1	2: Key Card Down
·	3: Pre-paid Card
	4: Coin Lock
	5: MF Key Card (Must be enabled with SP5114)
	11: Exp Key Card (Add)
	12: Exp Key Card (Deduct)



5114*	Optional Counter I/F
	MF Key Card Extension
001	Use this SP to change the setting to "1" only when the "5" (MF Key Card) is selected with SP5113-001.
	[0: Not installed / 1: Installed (scanning accounting)]

5118	Disable Copying
	Temporarily denies access to the machine. Japan Only
	[0 to 1 / 0 / 1]
	0: Release for normal operation
	1: Prohibit access to machine

	Mode Clear Opt. Counter Removal
	Do not change. Japan Only
5120	[0 to 2 / 0 / 1]
0.20	0: Yes. Normal reset
	1: Standby. Resets before job start/after completion
	2: No. Normally no reset

	Counter Up Timing
5101	Determines whether the optional key counter counts up at paper feed-in or at paper exit. Japan Only
5121	[0 or 1 / 0 / 1]
	0: Feed count
	1: No feed count

5107	F Size Original Setting	
	Selects the F-size original setting.	
[0 to 2 / 0 / 1 /step] 0: 8.5" x 13" (Foolscap)	[0 to 2 / 0 / 1 /step]	
	0: 8.5" x 13" (Foolscap)	
	1: 8.25" x 13" (Folio)	
	2: 8" x 13" (F)	

	APS OFF Mode		
	5127	This SP can be used to switch APS (Auto Paper Select) off when a coin lock or pre-paid key card device is connected to the machine.	
		[0 to 1 / 0 / 1]	
		O: Disable (APS active) [Default], 1: Enable (APS not active)	

	5129*	F Paper Size Selection
		Selects the "F" paper size.
51		[0 to 2 / 0 / 1 step]
		0: 8" x 13"
		1: 8.5" x 13"
		2: 8.25" x 13"

	T
	Paper Size Type Selection
	Selects the paper size (type) for both originals and copy paper.
	[0 to 2 / DIP SW setting / 1 step]
51014	0: Japan
5131*	1: North America
	2: Europe
	After changing the setting, turn the copier off and on. If the paper size of the archive files stored on the HDD is different, abnormal copies could result. Ask the customer to restore the archive files.

	Bypass Length Setting
	Sets up the by-pass tray for long paper.
5150	[0 to 1 / 0 / 1]
3130	O: Off
	1: On. Sets the tray for feeding paper up to 600 mm long.
	With this SP selected on, paper jams are not detected in the paper path.

5162	App. Switch Method
	Controls if the application screen is changed with a hardware switch or a software switch. [0 or 1 / 0 / 1]
	0: Soft Key Set
	1: Hard Key Set

		Fax Printing Mode at Optional Counter Off
5167	Enables or disables the automatic print out without an accounting device. This SP is used when the receiving fax is accounted for by an external accounting device.	
		0: Automatic printing
		1: No automatic printing

	CE Login
51.40	If you will change the printer bit switches, you must 'log in' to service mode with this SP before you go into the printer SP mode.
5169	[0 or 1 / 0 / 1]
	0: Off. Printer bit switches cannot be adjusted.
	1: On. Printer bit switches can be adjusted.

		Bypass Size Error	
5179*	This SP determines whether a paper size error prompt appears when the machine detects the wrong paper size for the job and jams during feed from the bypass tray.		
		[0 or 1 / 0 / 1]	
		0: Off, 1: On	

	RK 4: Setting Japan Only
5186	Enables or disables the prevention for RK4 (accounting device) disconnection. If the RK4 is disconnected for 10 seconds when this SP is set to "1 (Enable)", the machine automatically jams a sheet of paper and stops.
	[0 or 1 / 0 / 1/step]
	0: Disable
	1: Enable

5188 Copy NV Version DFU	
5195	Limitless SW DFU

5212	Page Numbering		
3	Duplex Printout Left/Right Position	Horizontally positions the page numbers printed on both sides during duplexing. [-10 to 10 / 0 / 1 mm] 0 is center, minus is left, + is right.	

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Vertically positions the page numbers printed on both sides during duplexing.

[-10 to 10 / 0 / 1 mm]

O is center, minus is down, + is up.

	Set Time DFU
	Sets the time clock for the local time. This setting is done at the factory before delivery. The setting is GMT expressed in minutes.
	[-1440 to 1440 / - / 1 min.]
5302	JA: +540 (Tokyo)
3302	NA: -300 (NY)
	EU: +6- (Paris)
	CH: +480 (Peking)
	TW: +480 (Taipei)
	AS: +480 (Hong Kong)

Summer Time

Lets you set the machine to adjust its date and time automatically with the change to Daylight Savings time in the spring and back to normal time in the fall. This SP lets you set these items:

- Day and time to go forward automatically in April.
- Day and time to go back automatically in October.
- Set the length of time to go forward and back automatically.

The settings for 002 and 003 are done with 8-digit numbers:

	Digits	Meaning
5307	1st, 2nd	Month. 4: April, 10: October (for months 1 to 9, the first digit of 0 cannot be input, so the eight-digit setting for 002 or 003 becomes a seven-digit setting)
	3rd	Day of the week. 0: Sunday, 1: Monday
	4th	The number of the week for the day selected at the 3rd digit. If "O" is selected for "Sunday", for example, and the selected Sunday is the start of the 2nd week, then input a "2" for this digit.
	Eil. Zil.	The time when the change occurs (24-hour as hex code).
	5th, 6th	Example: 00:00 (Midnight) = 00, 01:00 (1 a.m.) = 01, and so on.
	7th	The number of hours to change the time. 1 hour: 1
	8th	If the time change is not a whole number (1.5 hours for example), digit 8 should be 3 (30 minutes).
	Setting	Enables/disables the settings for 002 and 003.
1		[0 to 1 / 1 (NA/EU), 0 (ASIA) / 1 /step]
'		0: Disable
		1: Enable
3	Rule Set (Start)	The start of summer time.
4	Rule Set (End)	The end of summer time.

5	Access Control DFU
540	 This SP stores the settings that limit uses access to SDK application data.

103	Default Document ACL	Used to assign the default access user access privileges to their own documents on the document server. [0 to 3 / 0 / 1 step] 0: View, 1: Edit, 2: Edit/Delete, 3: Full control.
162*	Extend Certification Detail	Selects the log out type for the extend authentication device. Bit O: Log-out without an IC card O: Not allowed (default) 1: Allowed
200	SDK1 Unique ID	
201	SDK1 Certification Method	
210	SDK2 Unique ID	"SDK" is the "Software Development Kit". This
211	SDK2 Certification Method	data can be converted from SAS (VAS) when installed or uninstalled. DFU
220	SDK3 Unique ID	
221	SDK3 Certification Method	
230	Certification Device	Enables or disables the SDK certification. • Bit 0: SDK certification 0: Disable (default), 1: Enable • Bit 1: Not used • Bit 2: Administrator log in 0: Disable (default), 01: Enable

		Enables or disables the log out confirmation option.
		'
		Bit 0: Log out confirmation option
		0: Enable (default), 1: Disable
240*	Detail Option	Selects the automatic log out time.
		 Bit 1 and 2: Automatic log out timer reduction
		00: 60 seconds (default), 01: 10 seconds,
		10: 20 seconds, 11: 30 seconds

	User Code Count Clear
5404	Clears the counts for the user codes assigned by the key operator to restrict the use of the machine. Press [Execute] to clear.

5411	LDAP Certification
	Easy Certification
	Determines whether easy LDAP certification is done.
4	[0 or 1 / 1 / 1]
	1: On
	O: Off
	Password Null Not Permit
5	This SP is referenced only when SP5411-4 is set to "1" (On).
	[0 or 1 / 0 / 1]
	0: Password NULL not permitted.
	1: Password NULL permitted.

5413	Lockout Setting
	Lockout On/Off
	Switches on/off the lock on the local address book account.
1	[0 or 1 / 0 / 1]
	0: Off
	1: On

2	Lockout Threshold Sets a limit on the frequency of lockouts for account lockouts. [1 to 10 / 5 / 1]
3	Cancellation On/Off Determines whether the system waits the prescribed time for input of a correct user ID and password after an account lockout has occurred. [0 or 1 / 0 / 1] 0: Off (no wait time, lockout not cancelled) 1: On (system waits, cancels lockout if correct user ID and password are entered.
4	Cancellation Time Determines the length of time that the system waits for correct input of the user ID and password after a lockout has occurred. This setting is used only if SP5413-3 is set to "1" (on). [1 to 9999 / 60 / 1 min.]
5	Counter Clear Time Not Used

5414	Access Mitigation
1	Mitigation On/Off Switches on/off masking of continuously used IDs and passwords that are identical. [0 or 1 / 0 / 1] 0: Off 1: On
2	Mitigation Time Sets the length of time for excluding continuous access for identical user IDs and passwords. [0 to 60 / 15 / 1 min]

5415	Password Attack	
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Permissible Number	
Sets the number of attempts to attack the system with random passwords to gain illegal access to the system.	
[0 to 100 / 30 / 1 attempt]	
Detect Time	
Sets the time limit to stop a password attack once such an attack has been detected.	
[1 to 10 / 5 / 1 sec.]	
	Sets the number of attempts to attack the system with random passwords to gain illegal access to the system. [0 to 100 / 30 / 1 attempt] Detect Time Sets the time limit to stop a password attack once such an attack has been detected.

5416	Access Information
1	Access User Max Number Limits the number of users used by the access exclusion and password attack detection functions. [50 to 200 / 200 / 1 users]
2	Access Password Max Number Limits the number of passwords used by the access exclusion and password attack detection functions. [50 to 200 / 200 / 1 passwords]
3	Monitor Interval Sets the processing time interval for referencing user ID and password information. [1 to 10 / 3 / 1 sec.]

5417	Access Attack
1	Access Permissible Number Sets a limit on access attempts when an excessive number of attempts are detected for MFP features. [0 to 500 / 100 / 1]
2	Attack Detect Time Sets the length of time for monitoring the frequency of access to MFP features. [10 to 30 / 10 / 1 sec.]

3	Productivity Fall Waite Sets the wait time to slow down the speed of certification when an excessive number of access attempts have been detected. [0 to 9 / 3 / 1 sec.]	
4	Attack Max Number Sets a limit on the number of requests received for certification in order to slow down the certification speed when an excessive number of access attempts have been detected. [50 to 200 / 200 / 1 attempt]	

5420	User Authentication		
	These settings should be done with the System Administrator.		
	Note: These functions are enabled only after the user access feature has been enabled.		
	Сору		
1	Determines whether certification is required before a user can use the copy applications. [0 or 1/0/1] 0: On 1: Off		
11	Document Server Determines whether certification is required before a user can use the document server. [0 or 1 / 0 / 1] 0: On 1: Off		
21	Fax Determines whether certification is required before a user can use the fax application. [0 or 1 / 0 / 1] 0: On 1: Off		

	Scanner		
	Determines whe	ther certification is required before a user can use the scan applications.	
31	31 [0 or 1 / 0 / 1] 0: On		
	1: Off		
	Printer		
	Determines whether certification is required before a user can use the printer applications.		
41	1 [0 or 1 / 0 / 1]		
	0: On		
	1: Off		
51	SDK1	[0 or 1 / 0 / 1] 0: ON. 1: OFF	
61	SDK2	Determines whether certification is required before a user can use the	
71	SDK3	SDK application.	

5481	Authentication Error Code
	These SP codes determine how the authentication failures are displayed.
1	System Log Disp Determines whether an error code appears in the system log after a user authentication failure occurs. [0 or 1 / 0 / -] 0: Off 1: On
2	Panel Disp Determines whether an error code appears on the operation panel after a user authentication failure occurs. [0 or 1 / 1 / 1] 1: On 0: Off

	MF Keycard Japan Only
	Sets up operation of the machine with a keycard.
5490	[0 or 1 / 0 / 1]
	0: Disabled. Cancels operation if no code is input.
	1: Enabled. Allows operation if another code is input and decrements the counter once for use of the entered code.

5501*	PM Alarm
	PM Alarm Interval
1	Sets the PM interval.
	The value stored in this SP is used when the value of SP5501 2 is "1".
	[0 to 255 / 0 / 1 k copies/step]
	Original Count Alarm DFU
2	Selects whether the PM alarm for the number of scans is enabled or not.
	If this is "1", the PM alarm function is enabled.
	[0 = No / 1 = Yes]

5504*	Jam Alarm Japan Only
	Sets the alarm to sound for the specified jam level (document misfeeds are not included). RSS use only
	[0 to 3 / 3 / 1 step]
	0: Zero (Off)
	1: Low (2.5K jams)
	2: Medium (3K jams)
	3: High (6K jams)

	Error Alarm
5505*	Sets the error alarm level. Japan only DFU
	[0 to 255 / 35 (D017/D018/D084), 45 (D019/D020/D085) / 100 copies / step]

5507 Sup

1	Paper Supply Alarm (0:Off 1:On)	Switches the control call on/off for the paper supply. DFU 0: Off, 1: On	
		0: No alarm.	
		1: Sets the alarm to sound for the specified number transfer sheets for each paper size (A3, A4, B4, B5, DLT, LG, LT, HLT)	
		Switches the control call on/off for the stapler installed in the finisher. DFU	
2	Staple Supply Alarm (0:Off 1:On)	0: Off, 1: On	
	T:On)	0: No alarm	
		1: Alarm goes off for every 1K of staples used.	
	Toner Supply Alarm (0:Off 1:On)	Switches the control call on/off for the toner end. DFU	
3		0: Off, 1: On	
		If you select "1" the alarm will sound when the copier detects toner end.	
128*	interval: Others		
132*	Interval: A3		
133*	Interval: A4		
134*	Interval: A5		
141*	Interval: B4	The "Paper Supply Call Level: nn" SPs specify the paper control call interval for the referenced paper sizes. DFU	
142*	Interval: B5	[00250 to 10000 / 1000 / 1 Step]	
160*	Interval: DLT		
164*	Interval: LG		
166*	Interval: LT	_	
172*	Interval: HLT		

5508	CC Call Japan Only
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1	Jam Remains	Enables/disables initiating a call.
2	Continuous Jams	[0 or 1 / 1 / 1]
3	Continuous Door Open	0: Disable 1: Enable
11	Jam Detection: Time Length	Sets the length of time to determine the length of an unattended paper jam. [3 to 30 / 10 / 1 minute]
12	Jam Detection Continuous Count	Sets the number of continuous paper jams required to initiate a call. [2 to 10 / 5 / 1 time]
13	Door Open: Time Length	Sets the length of time the remains opens to determine when to initiate a call. [3 to 30 / 10 / 1 minute]

	SC/Alarm Setting		
With NRS (New Remote Service) in use, these SP codes can be set to issue an SC error occurs. If this SP is switched off, the SC call is not issued whe occurs.			
1	SC Call		
2	Service Parts Near End Call	[0 or 1 / 1 / -]	
3	Service Parts End Call	1: On	
4	User Call		
6	Communication Test Call		
7	Machine Information Notice		
8	Alarm Notice	[0 or 1 / 1 / -] — 0: Off	
10	Supply Automatic Ordering Call	1: On	
11	Supply Management Report Call		
12	Jam/Door Open Call		

	Memory Clear	
5801	Resets NVRAM data to the default settings. Before executing any of these SP codes, print an SMC Report.	
1	All Clear	Initializes items 2 to 15 below.
2	Engine	Initializes all registration settings for the engine and copy process settings.
3	SCS	Initializes default system settings, SCS (System Control Service) settings, operation display coordinates, and ROM update information.
4	IMH Memory Clear	Initializes the image file system. (IMH: Image Memory Handler)
5	MCS	Initializes the automatic delete time setting for stored documents. (MCS: Memory Control Service)
6	Copier application	Initializes all copier application settings.
7	Fax application	Initializes the fax reset time, job login ID, all TX/RX settings, local storage file numbers, and off-hook timer.
8	Printer application	Initializes the printer defaults, programs registered, the printer SP bit switches, and the printer CSS counter.
9	Scanner application	Initializes the defaults for the scanner and all the scanner SP modes.
10	Web Service	Deletes the Netfile (NFA) management files and thumbnails, and initializes the Job login ID. Netfiles: Jobs to be printed from the document server using a PC and the DeskTopBinder software
11	NCS	Initializes the system defaults and interface settings (IP addresses also), the SmartNetMonitor for Admin settings, WebStatusMonitor settings, and the TELNET settings. (NCS: Network Control Service)

12	R-FAX	Initializes the job login ID, SmartNetMonitor for Admin, job history, and local storage file numbers.
14	Clear DCS Setting	Initializes the DCS (Delivery Control Service) settings.
15	Clear UCS Setting	Initializes the UCS (User Information Control Service) settings.
16	MIRS Setting	Initializes the MIRS (Machine Information Report Service) settings.
17	CCS	Initializes the CCS (Certification and Charge-control Service) settings.
18	SRM Memory Clear	Initializes the SRM (System Resource Manager) settings.
19	LCS	Initializes the LCS (Log Count Service) settings.
20	Web Apli	Initializes Web application settings.
21	ECS	Initializes ECS (Engine Control Service).

	Free Run	
5802	Performs a free run for both scanner and the printer. Touch [ON] to start the free run. Touch [OFF] to stop.	
1	A4 (LEF)/F1	Free run for A4-size paper, long-edge feed, from the upper tray.
2	A3/F2	Free run for A3-size paper from the lower tray.
3	A4 (SEF)/F2	Free run for A4-size paper, short-edge feed, from the lower tray.

	Input Check
5803	Displays signals received from sensors and switches.
	Press the (Clear Modes) key to exit
1	Original Size Sensor

2	ENG Enable Signal	
3	Tray 2: Paper Height Sensor	
4	Tray 1: Paper Height Sensor	
5	Tray 2: Paper End Sensor	
6	Tray 2: Paper Feed Sensor	
7	Warm-up Signal	
8	ENG Down Time Signal	
9	Bank Motor Ready Signal	
10	Bank Paper Height Sensor	
11	Bank: Set Sensor	
12	Bank: Cover Open	
13	Fusing Unit Set	
14	Interchange Sensor	
15	Interchange Unit Set	
16	1-Bin Unit Set	
17	1-Bin Unit: Paper Set	
18	Tray 1: Paper Feed Sensor	
19	Tray 1: Paper End Sensor	
20	Tray 2: Paper Lift Sensor	
21	Tray 1: Paper Lift Sensor	
22	Tray 3: Paper End Sensor	
23	Tray 4: Paper End Sensor	
24	Tray 3: Paper Lift Sensor	
25	Tray 4: Paper Lift Sensor	
26	Duplex Unit Set	
27	Mechanical Counter Set	

28	By-pass Tray Unit Set
29	By-pass: Paper End Sensor
30	By-pass: Paper Size Sensor
31	Duplex: Entrance Sensor
32	Duplex: Exit Sensor
33	Registration Sensor
34	Front Safety SW- 24V
35	Front Safety SW - 5V
36	Paper Overflow Sensor
37	Fan Lock
38	Bottle Motor Lock
39	Destination Code
40	SIU: BW/Color
42	Bridge Exit Sensor
43	Bridge Relay Sensor
44	Bridge Center Cover Open
45	Bridge Right Cover Open
46	Bridge Unit Set Detection
47	Bridge Motor Lock
48	Shift Tray Unit Set
49	Key Counter Set
50	Key Card Set
51	Tray 3: Paper Feed Sensor
52	Tray 4: Paper Feed Sensor
53	Tray 3: Paper Size Sensor
54	Tray 4: Paper Size Sensor

55	Paper Exit Sensor	
56	PCU Set	
57	New PCU Sensor	
58	Tray 2: Paper Size Sensor	
59	Tray 1: Paper Size Sensor	
60	Main Motor Ready Signal	
61	Tray 2: Tray Set Sensor	
62	Tray 1: Tray Set Sensor	
63	Right Cover Open	
200	Scanner HP Sensor	
201	Platen Cover Sensor	

5804	Output Check	
	Turns on electrical components individually for test purposes.	
1	Main Motor (Fwd)	Main motor (forward)
2	Main Motor (Rev)	Main motor (Reverse) Do not use
3	Registration CL	Registration clutch
5	Toner Bottle Motor	Toner supply motor
6	Exhaust Fan Motor (High Speed)	Exhaust fan (High Speed)
7	Exhaust Fan Motor (Low Speed)	Exhaust fan (Low Speed)
9	1st Paper Feed CL	Upper paper feed clutch
10	2nd Paper Feed CL	Lower paper feed clutch
11	1st Paper Tray Up	Upper paper lift motor (Up)
12	1st Paper Tray Down	Upper paper lift motor (Down)
13	2nd Paper Tray Up	Lower paper lift motor (Up)

14	2nd Paper Tray Down	Lower paper lift motor (Down)
15	Paper Transport CL1	Upper relay clutch
16	Paper Transport CL2	Lower relay clutch
17	Fuser Drive Cancel SOL	Fusing drive release solenoid
21	Paper Transport CL3	Relay clutch (Optional paper tray unit)
22	3rd Paper Feed CL	Upper paper feed clutch (Optional paper tray unit)
23	4th Paper Feed CL	Lower paper feed clutch (Optional paper tray unit)
24	Paper Bank Motor	Tray motor (Optional paper tray unit)
25	3rd/LCT Tray Up	Upper Paper lift motor (Up) (Optional paper tray unit or LCT)
26	3rd/LCT Tray Down	Upper paper lift motor (Down) (Optional paper tray unit or LCT)
27	4th Tray Up	Lower paper lift motor (Up) (Optional paper tray unit)
28	4th Tray Down	Lower paper lift motor (Down) (Optional paper tray unit)
33	Exit Junction Gate SOL (Upper Unit)	Exit junction gate (Optional interchange unit)
41	Interchange Motor CCW	Interchange motor (Reverse) (Optional duplex unit)
42	Interchange Sensor CW	Interchange sensor
43	Duplex Motor	Duplex transport motor (Optional duplex unit)
44	By-pass Feed Motor	By-pass feed motor (Optional by-pass unit)
51	Relay Fan Motor	Bridge cooling fan motor (Optional bridge unit)
52	Relay Transport Motor	Bridge unit drive motor (Optional bridge unit)
53	Relay SOL	Junction gate solenoid (Optional bridge unit)
54	Total Counter	Total counter
60	Polygon Motor	Polygonal mirror motor
61	Polygon Motor/LD	Polygonal mirror motor and laser diode
62	LD ON	Laser diode - Do not use

107	QL	
108	PP. Charg.	
109	PP. Development	DD
110	PP. Image Transfer	PP. means "Power Pack" (PCBs).
111	PP. Separation Voltage	
202	Scanner Lamp	

	SC Reset
5810	Resets all level A service call conditions, such as fusing errors. To clear the service call, touch "Execute" on the LCD, then turn the main power switch off/on.

	Machine No. Setting DFU	
5811	This SP presents the screen used to enter the 11-digit number of the machine. The allowed entries are "A" to "Z" and "0" to "9". The setting is done at the factory, and should not be changed in the field.	н

5812	Service Tel. No. Setting	
1	Service	Inputs the telephone number of the CE (displayed when a service call condition occurs.)
2	Facsimile	Use this to input the fax number of the CE printed on the Counter Report (UP mode). Not Used
3	Supply	Displayed on the initial SP screen.
4	Operation	Allows the service center contact telephone number to be displayed on the initial screen.

	I/F Setting
	Selects the remote service setting.
001	[0 to 2 / 2 / 1 /step]
	O: Remote service off
	1: CSS remote service on
	2: @Remote service on
	CE Call
	Performs the CE Call at the start or end of the service.
002	[0 or 1 / 0 / 1 /step]
002	0: Start of the service
	1: End of the service
	NOTE: This SP is activated only when SP 5816-001 is set to "2".
	Function Flag
	Enables or disables the remote service function.
003	[0 to 1 / 0 / 1 /step]
	0: Disabled, 1: Enabled
	NOTE: This SP setting is changed to "1" after @Remote register has been completed.
	SSL Disable
	Uses or does not use the RCG certification by SSL when calling the RCG.
007	[0 to 1 / 0 / 1 /step]
	0: Uses the RCG certification
	1: Does no use the RCG certification
	RCG Connect Timeout
008	Specifies the connect timeout interval when calling the RCG.
	[1 to 90 / 30 / 1 second /step]
	RCG Write Timeout
009	Specifies the write timeout interval when calling the RCG.
	[1 to 100 / 60 / 1 second / step]

	RCG Read Timeout
010	Specifies the read timeout interval when calling the RCG. [1 to 100 / 60 / 1 second /step]
	Port 80 Enable
011	Enables/disables access via port 80 to the SOAP method. [0 or 1 / 0 / -] 0: Disabled, 1: Enabled
	RFU (Remote Firmware Update) Timing
013	Selects the RFU timing. [O or 1 / 1 / -] O: RFU is executed whenever update request is received. 1: RFU is executed only when the machine is in the sleep mode.
	RCG – C Registed
021	This SP displays the Embedded RC Gate installation end flag. 0: Installation not completed 1: Installation completed
	RCG – C Regist Detail
022	This SP displays the Embedded RC Gate installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered
	Connect Type (N/M)
023	This SP displays and selects the Embedded RC Gate connection method. [0 or 1 / 0 / 1 /step 0: Internet connection 1: Dial-up connection
245	Cert. Expire Timing DFU
061	Proximity of the expiration of the certification.

	Use Proxy
062	This SP setting determines if the proxy server is used when the machine communicates with the service center.
	Proxy Host
063	This SP sets the address of the proxy server used for communication between Embedded RC Gate-N and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up Embedded RC Gate-N.
	Note
	 The address display is limited to 128 characters. Characters beyond the 128 character are ignored.
	 This address is customer information and is not printed in the SMC report.
	Proxy Port Number
064	This SP sets the port number of the proxy server used for communication between Embedded RC Gate-N and the gateway. This setting is necessary to set up Embedded RC Gate-N. •• Note
	This port number is customer information and is not printed in the SMC report.
	Proxy User Name
	This SP sets the HTTP proxy certification user name.
065	↓ Note
	 The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored.
	 This name is customer information and is not printed in the SMC report.
	Proxy Password
066	This SP sets the HTTP proxy certification password.
	Note
	 The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored.
	 This name is customer information and is not printed in the SMC report.
067	CERT: Up State

	Displ	ays the status of the certification update.
	0	The certification used by Embedded RC Gate is set correctly.
	1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.
	2	The certification update is completed and the GW URL is being notified of the successful update.
	3	The certification update failed, and the GW URL is being notified of the failed update.
	4	The period of the certification has expired and new request for an update is being sent to the GW URL.
	11	A rescue update for certification has been issued and a rescue certification setting is in progress for the rescue GW connection.
	12	The rescue certification setting is completed and the GW URL is being notified of the certification update request.
	13	The notification of the request for certification update has completed successfully, and the system is waiting for the certification update request from the rescue GW URL.
	14	The notification of the certification request has been received from the rescue GW controller, and the certification is being stored.
	15	The certification has been stored, and the GW URL is being notified of the successful completion of this event.
	16	The storing of the certification has failed, and the GW URL is being notified of the failure of this event.
	17	The certification update request has been received from the GW URL, the GW URL was notified of the results of the update after it was completed, but a certification error has been received, and the rescue certification is being recorded.
	18	The rescue certification of No. 17 has been recorded, and the GW URL is being notified of the failure of the certification update.

	CERT	: Error			
	Displays a number code that describes the reason for the request for update of the certification.				
	0	Normal. There is no request for certification update in progress.			
	1	Request for certification update in progress. The current certification has expired.			
068	2	An SSL error notification has been issued. Issued after the certification has expired.			
	3	Notification of shift from a common authentication to an individual certification.			
	4	Notification of a common certification without ID2.			
	5	Notification that no certi	Notification that no certification was issued.		
	6	Notification that GW UF	RL does not exist.		
069	CERT	: Up ID	The ID of the request for certification.		
083	Firmv	vare Up Status	Displays the status of the firmware update.		
084	Non-HDD Firm Up		This setting determines if the firmware can be updated, even without the HDD installed.		
004			0: Not allowed update		
			1: Allowed update		
085	Firm Up User Check		This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.		
086	Firmware Size		Allows the service technician to confirm the size of the firmware data files during the firmware update execution.		
087	CERT	: Macro Ver.	Displays the macro version of the @Remote certification.		
088	CERT	: PAC Ver.	Displays the PAC version of the @Remote certification.		
089	CERT: ID2 Code		Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000" indicates "Common certification".		

090	CERT: Subject	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists. "000000" indicates "Common certification".	
091	CERT: Serial No.	Displays serial number for the @Remote certification. Asterisks (*) indicate that no @Remote certification exists.	
092	CERT: Issuer	Displays the common name of the issuer of the @Remote certification. CN = the following 30 bytes. Asterisks () indicate that no @Remote certification exists.	
093	CERT: Valid Start	Displays the start time of the period for which the current @Remote certification is enabled.	
094	CERT: Valid End	Displays the end time of the period for which the current @Remote certification is enabled.	
1.50	Selection Country		
150	Not used		
1.51	Line Type Automatic Judgment		
151	Not used		
1.50	Line Type Judgment Result		
152	Not used		
1.50	Selection Dial/Push		
153	Not used		
1.5.4	Outside Line/Outgoing Number		
154	Not used		
1 5 4	Dial Up User Name		
156	• Not used		
1 5 7	Dial Up Password		
157	Not used		

141	Local Phone Number				
161	Not used				
1.0	Connection Timing Adjustment: Incoming				
162	Not used				
1.40	Access Point				
163	Not used				
1774	Line Connecting				
164	Not used				
173	Modem Serial Number Not used				
174	Retransmission Limit				
1/4	Not used				
107	FAX TX Priority -				
187	Not used				
200	Manual Polling	-	Not used		
	Regist: Status				
	Displays a number that indicates the status of the @Remote service device.				
	0: Neither the @Remote device nor Embedded RCG Gate is set.				
201	1: The Embedded RCG Gate is being set. Only Box registration is completed. In this status, @Remote device cannot communicate with this device.				
	2: The Embedded RCG Gate is set. In this status, the @Remote device cannot communicate with this device.				
	3: The @Remote device is being set. In this status the Embedded RCG Gate cannot be set.				
	4: The @Remote module has not started.				
202	Letter Number	Allows entry of the request number needed for the Embedded RCG Gate.			
203	Confirm Execute Executes the confirmation request to the @Remote Gateway.				
204	Confirm Result				

	Displays a number that indicates the result of the confirmation executed with SP5816-203.			
	0: Succeeded			
	1: Confirmation number error			
	2: Registration in progress			
	3: Proxy error (proxy enabled)			
	4: Proxy error (proxy disable	d)		
	5: Proxy error (Illegal user no	ame or password)		
	6: Communication error			
	7: Certification update error			
	8: Other error			
	9: Confirmation executing			
	Confirm Place			
205	Displays the result of the notification sent to the device from the Gateway in answer to the confirmation request. Displayed only when the result is registered at the Gateway.			
206	Register Execute Executes "Embedded RCG Registration".			
	Register Result			
	Displays a number that indicates the registration result.			
	0: Succeeded			
	2: Registration in progress			
	3: Proxy error (proxy enabled)			
207	4: Proxy error (proxy disabled)			
	5: Proxy error (Illegal user name or password)			
	6: Communication error			
	7: Certification update error			
	8: Other error			
	9: Registration executing			
	Error Code			
208	Displays a number that describes the error code that was issued when either SP5816 or SP5816-207 was executed.			

	Cause	Code	Meaning
	Illegal Modem Parameter	-11001	Chat parameter error
		-11002	Chat execution error
		-11003	Unexpected error
		-12002	Inquiry, registration attempted without acquiring device status.
	Operation Error, Incorrect Setting	-12003	Attempted registration without execution of an inquiry and no previous registration.
		-12004	Attempted setting with illegal entries for certification and ID2.
		-12005	@Remote communication is prohibited. The device has an Embedded RC gate-related problem.
		-12006	A confirmation request was made after the confirmation had been already completed.
		-12007	The request number used at registration was different from the one used at confirmation.
		-12008	Update certification failed because mainframe was in use.
		-2385	Attempted dial up overseas without the correct international prefix for the telephone number.
	Error Caused by Response from GW URL	-2387	Not supported at the Service Center
		-2389	Database out of service
		-2390	Program out of service
		-2391	Two registrations for same device
		-2392	Parameter error

		-2393	RCG device not managed
		-2394	Device not managed
		-2395	Box ID for RCG device is illegal
		-2396	Device ID for RCG device is illegal
		-2397	Incorrect ID2 format
		-2398	Incorrect request number format
209	Instl Clear	NOTE: Tur	ne machine from its Embedded RCG Gate setup. rn off and on the main power switch after this been changed.
250	CommLog Print	Prints the communication log.	

5821	Remote Service Address Japan Only		
1	CSS PI Device Code	Sets the PI device code. After you change this setting, you must turn the machine off and on.	
2	RCG IP Address	Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center. [00000000htoFFFFFFFh/1]	

	NVRAM Data Upload
5824	Uploads the NVRAM data to an SD card (B140). Push Execute.
	Note: When uploading data in this SP mode, the front door must be open.

	NVRAM Data Download
5825	Downloads data from an SD card to the NVRAM in the machine. After downloading is completed, remove the card and turn the machine power off and on.

5828	Network Setting	
50	1284 Compatibility (Centro)	

	Enables and disables bi-directional communication on the parallel connection between the machine and a computer.				
	[0 or 1 / 1 / 1]				
	0:Off				
	1: On	1			
52	ECP (Centro)			
	Disab	Disables and enables the ECP feature (1284 Mode) for data transfer.			
	[0 or	1/ 1 /1]			
	0: Dis	abled			
	1: End	abled			
65	Job S	pooling			
	Switcl	hes job spooling on and o	ff.		
	[0 or	1/0/1]			
	0: No	0: No spooling, 1: Spooling enabled			
66	Job S	pool Clear: Start Time			
	on. Th	This SP determines whether the job interrupted at power off is resumed at the next power on. This SP operates only when SP5828 065 is set to 1.			
	[0 or 1 / 1 / 1]				
	1: Resumes printing spooled jog.				
	0: Clears spooled job.				
69	Job S	pool Protocol			
	This SP determines whether job spooling is enabled or disabled for each protocol. This is a 8-bit setting.				
	[0 or 1 / 1 / 1]				
	0: No spooling, 1: Spooling enabled				
	0	LPR	4	BMLinks (Japan Only)	
	1	FTP (Not Used)	5	DIPRINT	
	2	IPP	6	Reserved (Not Used)	
	3	SMB	7	Reserved (Not Used)	
90	TELNI	et (0:0ff 1:0N)			

	Disables or enables	Telnet operation. If this SP is disabled, the Telnet port is closed.		
	[0 or 1 / 1 / 1]			
	0: Disable			
	1: Enable			
91	Web Operation (0:OFF 1:ON)			
	Disables or enables t	the Web operation.		
	[0 or 1 / 1 / 1]			
	0: Disable			
	1: Enable			
145	ActlPv6LinkLocal			
	This is the IPv6 local address referenced on the Ethernet or wireless LAN (802.11) in the format:			
	"Link-Local address" + "Prefix Length"			
	The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. The notations can be abbreviated. See "Note: IPV6 Addresses " below this table.			
147	ActIPv6Sttles1			
149	ActlPv6Sttles2	These SPs are the IPv6 stateless addresses (1 to 5) referenced on the Ethernet or wireless LAN (802.11) in the format:		
151	ActIPv6Sttles3	"Stateless Address" + "Prefix Length"		
153	ActIPv6Sttles4	The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each.		
155	ActIPv6Sttles5			
156	IPv6 Manual Addres	s		
	This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11) in the format:			
	"Manual Set Address" + "Prefix Length"			
	The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. Thes notations can be abbreviated. See "Note: IPV6 Addresses" below this table.			
158	IPv6 Gateway			
	This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11). The IPv6 address consists of a total 128 bits configured in 8 blocks of 16 bits each. These notations can be abbreviated. See "Note: IPV6 Addresses" below this table.			

Note: IPV6 Addresses

Ethernet and the Wireless LAN (802.11) reference the IPV6 "Link-Local address + Prefix Length". The IPV6 address consists of 128 bits divided into 8 blocks of 16 bits:

aaaa:bbbb:cccc:dddd:eeee:ffff:gggg:hhhh:

The prefix length is inserted at the 17th byte (Prefix Range: 0x0~0x80). The initial setting is 0x40(64).

For example, the data:

2001123456789012abcdef012345678940h

is expressed:

2001:1234:5678:9012:abcd:ef01:2345:6789: prefixlen 64

However, the actual IPV6 address display is abbreviated according to the following rules.

Rules for Abbreviating IPV6 Addresses

- The IPV6 address is expressed in hexadecimal delimited by colons (:) with the following characters: 0123456789abcdefABCDEF
- 2. A colon is inserted as a delimiter every 4th hexadecimal character.

fe80:0000:0000:0000:0207:40ff:0000:340e

3. The notations can be abbreviated by eliminating zeros where the MSB and digits following the MSB are zero. The example in "2" above, then, becomes:

fe80:0:0:0207:40ff:0:340e

4. Sections where only zeros exist can be abbreviated with double colons (::). This abbreviation can be done also where succeeding sections contain only zeros (but this can be done only at one point in the address). The example in "2" and "3" above then becomes:

fe80::207:40ff:0:340e (only the first null sets zero digits are abbreviated as "::")

fe80:0:0:0:207:40ff::340e (only the last null set before "340e" is abbreviated as "::")

IPv6 Stateless Auto Setting
Enables/disables the stateless automatic setting for Ethernet/wireless LAN operation.

[0 or 1 / 1 / 1]
1: Enable
0: Disable

	Web Item Invisible
236	Determines whether each item can be set in Websys.
	[0x0000 to 0xffff/0xffff]
230	0: Not displayed, 1: Displayed
	Bit 0: NetRICOH
	Bit 1: Vendor for consumables
	Bit 2-15: Reserved
	Web Shopping Link Invisible
	Determines whether the NetRICOH link is displayed on the Websys top page and link
237	page.
	[0 or 1 / 1 / 1]
	1: Display
	0: No display
	Web Supplies Link Invisible
	Determines whether the consumable vendor link is displayed on the Websys top page and
238	link page.
	[0 or 1 / 1 / 1]
	1: Display
	0: No display
	Web Link 1 Name
239	Determines whether an name entered for "URL1" is displayed on the Websys link page. The name length is limited to 31 characters.
	Web Link 1 URL
240	
240	Sets the URL referenced for URL1 linked to the Websys linked page. The link name is limited to 127 characters.
	Web Link 1 Visible
	Determines whether the link for URL1 is displayed on the Websys top page.
241	[0 or 1 / 1 / 1]
	1: Display
	0: No display

242	Web Link 2 Name Determines whether a name entered for "URL2" is displayed on the Websys link page. The name length is limited to 31 characters.
243	Web Link 2 URL Sets the URL referenced for URL2 linked to the Websys linked page. The link name is limited to 127 characters.
244	Web Link 2 Visible Determines whether the link for URL2 is displayed on the Websys top page. [0 or 1 / 1 / 1] 1: Display 0: No display

5831	Initial Setting Clear DFU		
002	Copier up application		
	Clears the initial setting of copier.		

	HDD Formatting		
5832	Enter the SP number for the partition to initialize, then press #. When the execution ends, cycle the machine off and on.		
. 1	HDD Formatting (All)		
. 2	HDD Formatting (IMH)		
. 3	HDD Formatting (Thumbnail)		
. 4	HDD Formatting (Job Log)		
5	HDD Formatting (Printer Fonts)		
. 6	HDD Formatting (User Info)		
. 7	Mail RX Data		
. 8	8 Mail TX Data		
. 9	HDD Formatting (Data for Design)		
. 10	HDD Formatting (Log)		

. 11 HDD Formatting (Ridoc I/F) (for Ridoc Desk Top Binder)

5836	Capture Setting		
	Capture Function (0:Off 1:On)		
1	With this function disabled, the settings related to the capture feature cannot be initialized, displayed, or selected. [0 to 1 / 0 / 1] 0: Disable 1: Enable		
	Panel Setting		
2	Determines whether each capture related setting can be selected or updated from the init system screen. [0 to 1 / 0 / 1] 0: Disable 1: Enable The setting for SP5836-001 has priority.		
71	Reduction for Copy Color	[0 to 3 / 2 / 1] 0:1, 1:1/2, 2:1/3, 3:1/4 DFU	
72	Reduction for Copy B&W Text	[0 to 6 / 0 / 1] 0:1, 1:1/2, 2:1/3, 3:1/4, 6:2/3	
73	Reduction for Copy B&W Other	[0 to 6 / 0 / 1] 0:1, 1:1/2, 2:1/3, 3:1/4, 6:2/3	
74	Reduction for Printer Color	[0 to 3 / 2 / 1] 0:1, 1:1/2, 2:1/3, 3:1/4 DFU	
75	Reduction for Printer B&W [0 to 6 / 0 / 1] 0 1, 1:1/2, 2:1/3, 3:1/4, 6:2/3		
76	Reduction for Printer B&W HQ	[1 to 5 / 0 / 1] 1:1/2, 3:1/4, 4:1/6, 5:1/8	
81	Format for Copy Color	[0 to 3 / 0 / 1] 0: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR DFU	

82	Format for Copy B&W Text	[0 to 3 / 1 / 1] O: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR	
83	Format Copy B&W Other	[0 to 3 / 1 / 1] O: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR	
84	Format for Printer Color	[0 to 3 / 0 / 1] O: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR DFU	
85	Format for Printer B&W	[0 to 3 / 1 / 1] O: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR	
86	Format for Printer B&W HQ	[0 to 3 / 2 / 1] O: JFIF/JPEG, 1: TIFF/MMR, 2: TIFF/MH, 3: TIFF/MR	
	Default for JPEG	[5 to 95 / 50 / 1]	
91	Sets the JPEG format default for documents sent to the document management server with the MLB, with JPEG selected as the format. Enabled only when optional File Format Converter (MLB: Media Link Board) is installed.		

5840	IEEE 802.11		
	Channel MAX		
6	Sets the maximum range of the bandwidth for the wireless LAN. This bandwidth setting varies for different countries.		
	[1 to 14 / 11 (NA), 13 (EU), 14 (JPN) / 1]		
	JPN: 1 to 14, NA: 1 to 11, EU: 1 to 13		
	Channel MIN		
7	Sets the minimum range of the bandwidth for operation of the wireless LAN. This bandwidth setting varies for different countries.		
	[1 to 14 / 1 / 1]		
	JPN: 1 to 14, NA: 1 to 11, EU: 1 to 13		

	Transmission Speed	[0 x 00 to 0 x FF / 0 x FF to Auto / -]	
	0 x FF to Auto [Default]		
	0 x 11 - 55M Fix		
	0 x 10 - 48M Fix	0 x 05 - 5.5M Fix	
8	0 x 0F - 36M Fix	0 x 08 - 1M Fix	
	0 x 0E - 18M Fix	0 x 13 - 0 x FE (reserved)	
	0 x 0D - 12M Fix	0 x 12 - 72M (reserved)	
	0 x 0B - 9M Fix	0 x 09 - 22M (reserved)	
	0 x 0A - 6M Fix		
	WEP Key Select		
	Selects the WEP key.		
11	Bit 1 and 0		
	00: Key1, 01: Key2 (Reserved),		
	10: Key3 (Reserved), 11: Key4(Reserved)		
	Note: Displayed only when the wireless LAN card is installed.		
42	Fragment Thresh		
	Adjusts the fragment threshold for the IEEE802.11 card.		
	[256 to 2346 / 2346 / 1] This SP is displayed only when the IEEE802.11 card is installed.		
43	11g CTS to Self		
	Determines whether the CTS self function is to	urned on or off.	
[0 to 1 / 1 / 1] 0: Off, 1: On			
	This SP is displayed only when the IEEE802.11 card is installed.		
44	1 lg Slot Time		
	Selects the slot time for IEEE802.11.		
	[0 to 1 / 0 / 1] 0: 20 нm, 1: 9 нm		
	This SP is displayed only when the IEEE802.	11 card is installed.	
45	WPA Debug Lvl		

L

Selects the debug level for WPA authentication application.

[1 to 3 / 3 / 1] 1: Info, 2: warning, 3: error

This SP is displayed only when the IEEE802.11 card is installed.

	Supply Name Setting		
5841			
	Press the User Tools key. These names appear when the user presses the Inquiry button on the User Tools screen.		
1	Toner Name Setting: Black		
7	Org Stamp		
11	StapleStd1		
12	StapleStd2		
13	StapleStd3	Not Used	
14	StapleStd4		

5842	GWWS Analysis DFU
3642	This is a debugging tool. It sets the debugging output mode of each Net File process
1	Setting 1
2	Setting 2

5844	USB	
	Transfer Rate	
1	Sets the speed for USB data transmission.	
1	[Full Speed]	
	[Auto Change]	
2	Vendor ID	
	Sets the vendor ID:	
	Initial Setting: 0x05A Ricoh Company	
	[0x0000 to 0xFFFF/1] DFU	

3	Product ID
	Sets the product ID.
	[0x0000 to 0xFFFF/1] DFU
4	Device Release No.
	Sets the device release number of the BCD (binary coded decimal) display.
	[0000 to 9999 / 100 / 1] DFU
	Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD.

	Delivery Server Setting
5845	These are delivery server settings.
_	FTP Port No.
1	[0 to 65535 / 3670 / 1]
	IP Address (Primary)
2	Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be used with the initial system setting. [O to FFFFFFFF / O / 1]
	Delivery Error Display Time
6	Use this setting to set the length of time that the message is shown when a test error occurs during document transfer with the NetFile application and an external device. [0 to 999 / 300 / 1 sec]
8	IP Address (Secondary)
	Sets the IP address that is given to the computer that is the secondary delivery server for Scan Router. This SP lets you set only the IP address, and does not refer to the DNS setting.

	Delivery Server Model
	Lets you change the model of the delivery server that is registered by the I/O device. [0 to 4 / 0 / 1]
9	0: Unknown
7	1: SG1 Provided
	2: SG1 Package
	3: SG2 Provided
	4: SG2 Package
	Delivery Svr. Capability
	Changes the functions that the registered I/O device can do.
	[0 to 255 / 0 / 1]
	Bit7 = 1 Comment information exits
	Bit6 = 1 Direct specification of mail address possible
10	Bit5 = 1 Mail RX confirmation setting possible
	Bit4 = 1 Address book automatic update function exists
	Bit3 = 1 Fax RX delivery function exists
	Bit2 = 1 Sender password function exists
	Bit1 = 1 Function to link MK-1 user and Sender exists
	BitO = 1 Sender specification required (if set to 1, Bit6 is set to "0")
	Delivery Svr.Capability (Ext)
11	These settings are for future use. They will let you increase the number of registered devices (in addition to those registered for SP5845 010).
	There are eight bits (Bit 0 to Bit 7). All are unused at this time.
13	Server Scheme (Primary)
14	Server Port Number (Primary)
15	Server URL Path (Primary)
16	Server Scheme (Secondary)
17	Server Port Number (Secondary)
18	Server URL Path (Secondary)
19	Capture Server Scheme

20	20 Capture Server Path Number	
21	Capture Server URL Path	
22	Report Setting Control	

5846*	UCS Setting
1	Machine ID (for Delivery Server)
	Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed.
	This ID is created from the NIC MAC or IEEE 1394 EUI.
	The ID is displayed as either 6-byle or 8-byte binary.
	Machine ID Clear (Delivery Server)
2	Clears the unique ID of the device used as the name in the file transfer directory. Execute this SP if the connection of the device to the delivery server is unstable. After clearing the ID, the ID will be established again automatically by cycling the machine off and on.
	Maximum Entries
	Changes the maximum number of entries that UCS can handle.
3	[2000 to 50000 / 2000 / 1]
	If a value smaller than the present value is set, the UCS managed data is cleared, and the data (excluding user code information) is displayed.
6	Delivery Server Retry Timer
	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.
	[0 to 255 / 0 / 1]
	0: No retries
7	Delivery Server Retry Times
	Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.
	[0 to 255 / 0 / 1]

	Delivery Server Maximum Entries
8	Lets you set the maximum number of account entries and information about the users of the delivery server controlled by UCS.
	[2000 to 20000 / 2000 / 1]
	LDAP Search Timeout
10	Sets the length of the time-out for the search of the LDAP server.
	[1 to 255 / 60 / 1]
	Addr Book Migration (USB -> HDD)
	This SP moves the address book data from an SD card to the HDD. You must cycle the machine off and on after executing this SP.
	Turn the machine off.
	Install the HDD.
	Insert the SD card with the address book data in SD card slot C3.
	Turn the machine on.
	Do SP5846 040.
40	Turn the machine off.
	Remove the SD card from SD card slot C3.
	Turn the machine on.
	Note
	Executing this SP overwrites any address book data already on the HDD with the data from the SD card.
	 We recommend that you back up all directory information to an SD card with SP5846 051 before you execute this SP.
	 After the address book data is copied to HDD, all the address book data is deleted from the source SD card. If the operation fails, the data is not erased from the SD card.

Fill Addr Acl Info.

This SP must be executed immediately after installation of an HDD unit in a basic machine that previously had no HDD. The first time the machine is powered on with the new HDD installed, the system automatically takes the address book from the NVRAM and writes it onto the new HDD. However, the new address book on the HDD can be accessed only by the system administrator at this stage. Executing this SP by the service technician immediately after power on grants full address book access to all users.

Procedure

41

- 1. Turn the machine off.
- 2. Install the new HDD.
- 3. Turn the machine on.
- 4. The address book and its initial data are created on the HDD automatically. However, at this point the address book can be accessed by only the system administrator or key operator.
- 5. Enter the SP mode and do SP5846 041. After this SP executes successfully, any user can access the address book.

20: HDD

30: Nothing

Addr Book Media

Displays the slot number where an address book data is in.

[0 to 30 / - / 1]

43

47

48

0: Unconfirmed

1: SD Slot 1

2: SD Slot 2

4: USB Flash ROM

Initialize Local Address Book

Clears all of the address information from the local address book of a machine managed with UCS.

Initialize Delivery Addr Book

Push [Execute] to delete all items (this does not include user codes) in the delivery address book that is controlled by UCS.

Initialize LDAP Addr Book

Push [Execute] to delete all items (this does not include user codes) in the LDAP address book that is controlled by UCS.

50	Initializ	re All Addr Book	
	1	everything (including user's codes) in the directory information managed by UCS. ver, the accounts and passwords of the system administrators are not deleted.	
	Backup All Addr Book		
51		ds all directory information to the SD card. Do this SP before replacing the HDD. The ion may not succeed if the HDD is damaged.	
	Restore	e All Addr Book	
52		oads all directory information from the SD card. Upload the address book from the D with SP584651 before removing it. Do SP584652 after installing the new HDD.	
	Clear I	Backup Info.	
53	Deletes the address book uploaded from the SD card in the slot. Deletes only the files uploaded for that machine. This feature does not work if the card is write-protected.		
	1	After you do this SP, go out of the SP mode, turn the power off. Do not remove the d until the Power LED stops flashing.	
	Search	Option	
	This SP	uses bit switches to set up the fuzzy search options for the UCS local address book.	
	Bit	Meaning	
	0	Checks both upper/lower case characters	
	1		
60	2	Japan Only	
	3		
	4	Not Used	
	5	Not Used	
	6	Not Used	
	7	Not Used	

Complexity Option 1

Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to upper case and sets the length of the password.

62 [0 to 32 / **0** / 1]

Note:

- This SP does not normally require adjustment.
- This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.

Complexity Option 2

Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to lower case and defines the length of the password.

63 [0 to 32 / **0** / 1]

Note

- This SP does not normally require adjustment.
- This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.

Complexity Option 3

Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to numbers and defines the length of the password.

64 [0 to 32 / **0** / 1]

Note

- This SP does not normally require adjustment.
- This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.

	Complexity Option 4
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to symbols and defines the length of the password.
65	[0 to 32 / 0 / 1]
	Note
	This SP does not normally require adjustment.
	This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
	FTP Auth. Port Settings
91	Sets the FTP port to get the delivery server address book that is used in the individual authorization mode. [0 to 65535 / 3671 / 1]
94	Encryption Start
	Shows the status of the encryption function of the address book on the LDAP server. [0 to 255 / - / 1] No default

	Rep Resolution Reduction		
5847	5847 1 through 5847 6 changes the default settings of image data sent externally by the Net File page reference function. [0 to 2/1]		
	5847 21 sets the default for JPEG image quality of image files controlled by NetFile.		
	"NetFile" refers to jobs to be printed from the document server with a PC and the DeskTopBinder software.		
5847 2	Rate for Copy B&W Text	[0 to 6/0/1]	0: 1x
5847 3	Rate for Copy B&W Other	[0 to 6/0/1]	1: 1/2x
			2: 1/3x
	Rate for Printer B&W	[0 to 6/ 0 /1]	3: 1/4x
			4: 1/6x
5847 5			5: 1/8x
			6: 2/3x1
			1: "6: 2/3x" applies to 003, 005, 006 only.

	Network Quality Default for JPEG
5847 21	Sets the default value for the quality of JPEG images sent as NetFile pages. This function is available only with the MLB (Media Link Board) option installed.
	[5 to 95 / 50 / 1]

	Web Service		
5848	5847 2 sets the 4-bit switch assignment for the access control setting. Setting of 0001 has no effect on access and delivery from Scan Router.		
	5847 100 sets the maximum size of images that can be downloaded. The default is equal to 1 gigabyte.		
2	Acc. Ctrl.: Repository (only Lower 4 Bits)	0000: No access control 0001: Denies access to DeskTop Binder.	
3	Acc. Ctrl.: Doc. Svr. Print (Lower 4 Bits)		
4	Acc. Ctrl.: User Directory (Lower 4 Bits)		
7	Acc. Ctrl Comm. Log Fax (Lower 4 Bits)		
9	Acc. Ctrl.: Job Control (Lower 4 Bits)	Switches access control on and off.	
11	Acc. Ctrl: Device Management (Lower 4 Bits)	0000: OFF, 0001: ON	
21	Acc. Ctrl: Delivery (Lower 4 Bits)		
22	Acc. Ctrl: User Administration (Lower 4 Bits)		
99	Repository: Download Image Setting		
100	Repository: Download Image Max. Size	[1 to 2048 / 2048 / 1 MB]	
210	Setting: Log Type: Job 1		
210	No information is available at this time.		
211	Setting: Log Type: Job 2		
	No information is available at this time.		
212	Setting: Log Type: Access		
212	No information is available at this time.		

213	Setting: Primary Srv
213	No information is available at this time.
0.1.4	Setting: Secondary Srv
214	No information is available at this time.
215	Setting: Start Time
215	No information is available at this time.
216	Setting: Interval Time
	No information is available at this time.
217	Setting: Timing
	No information is available at this time.

Installation Date		
5849	Displays or prints the installation date of the machine.	
1	Display	The "Counter Clear Day" has been changed to "Installation Date" or "Inst. Date".
2	Switch to Print	Determines whether the installation date is printed on the printout for the total counter.
		[0 or 1/1/-]
		0: OFF (No Print)
		1: ON (Print)
3	Total Counter	-

5850*	Address Book Function Japan Only
	The machine is shipped ready to use with a G3 line. Use this SP to switch all at once to G4 after adding a G4 line. If the G4 line becomes unusable for some reason, you can use this SP to switch easily back to G3. Just touch [Replacement].

	Bluetooth Mode
5851	Sets the operation mode for the Bluetooth Unit. Press either key.
	[O: Public] [1: Private]

	Stamp Data Download
5853	Push [Execute] to download the fixed stamp data from the machine ROM onto the hard disk. Then these stamps can be used by the system. If this is not done, the user will not have access to the fixed stamps ("Confidential", "Secret", etc.).
	You must always execute this SP after replacing the HDD or after formatting the HDD. Always switch the machine off and on after executing this SP.

5856	Remote ROM Update
	When set to "1" allows reception of firmware data via the local port (IEEE 1284) during a remote ROM update. This setting is reset to zero after the machine is cycled off and on. Allows the technician to upgrade the firmware using a parallel cable
2	[0 or 1 / 0 / 1]
	0: Not allowed
	1: Allowed

5857	Save Debug Log
	On/Off (1:ON 0:OFF)
1	Switches on the debug log feature. The debug log cannot be captured until this feature is switched on.
	[0 or 1 / 0 / 1]
	0: OFF
	1: ON
	Target (2: HDD 3: SD)
2	Selects the destination where the debugging information generated by the event selected by SP5858 will be stored if an error is generated
2	[2 to 3 / 2 / 1]
	2: HDD
	3: SD Card

5	Save to HDD
_	Specifies the decimal key number of the log to be written to the hard disk.
6	Save to SD Card
0	Specifies the decimal key number of the log to be written to the SD Card.
	Copy HDD to SD Card (Latest 4 MB)
9	Takes the most recent 4 MB of the log written to the hard disk and copies them to the SD Card.
	A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card.
	Copy HDD to SD Card Latest 4 MB Any Key)
10	Takes the log of the specified key from the log on the hard disk and copies it to the SD Card.
	A unique file name is generated to avoid overwriting existing file names on the SD Card. Up to 4 MB can be copied to an SD Card. 4 MB segments can be copied one by one to each SD Card. This SP does not execute if there is no log on the HDD with no key specified.
1,1	Erase HDD Debug Data
11	Erases all debug logs on the HDD
	Erase SD Card Debug Data
12	Erases all debug logs on the SD Card. If the card contains only debugging files generated by an event specified by SP5858, the files are erased when SP5857 010 or 011 is executed.
	To enable this SP, the machine must be cycled off and on.
13	Free Space on SD Card
13	Displays the amount of space available on the SD card.
	Copy SD to SD (Latest 4MB)
14	Copies the last 4MB of the log (written directly to the card from shared memory) onto an SD card.

	Copy SD to SD (Latest 4MB Any Key)
15	This SP copies the log on an SD card (the file that contains the information written directly from shared memory) to a log specified by key number.
1.4	Make HDD Debug
16	This SP creates a 32 MB file to store a log on the HDD.
1.7	Make SD Debug
17	This SP creates a 4 MB file to store a log on an SD card.

	Debug Save When		
5858*	These SPs select the content of the debugging information to be saved to the destination selected by SP5857 002.		
	SP5858 3 stores one SC specified by number.		
]*	Engine SC Error (0:OFF 1:ON)	Stores SC codes generated by copier engine errors.	
2*	Controller SC Error (0:OFF 1:ON)	Stores SC codes generated by GW controller errors.	
3*	Any SC Error (0:OFF 1:ON)	[0 to 65535 / 0 / 1]	
4*	Jam (0:OFF 1:ON)	Stores jam errors.	

5859	Debug Log Save Function	
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1	Key 1	
2	Key 2	
3	Key 3	
4	Key 4	
5	Key 5	These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller board. [-9999999 to 9999999 / - / 1]
6	Key 6	
7	Key 7	
8	Key 8	
9	Key 9	
10	Key 10	

5860	SMTP/POP3/IMAP4
	Partial Mail Receive Timeout
20	[1 to 168 / 72 / 1 hour] Sets the amount of time to wait before saving a mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time.
	MDN Response RFC2298 Compliance
21	Determines whether RFC2298 compliance is switched on for MDN reply mail. [0 or 1 / 1 / -] 0: No 1: Yes
	SMTP Auth. From Field Replacement
22	Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated. [0 or 1 / 0 / -] 0: No. "From" item not switched. 1: Yes. "From" item switched.

	SMTP Auth Direct Sending
	Occasionally, SMTP certification may fail with encryption enabled for the SMTP server. This can occur if the SMTP server does not meet RFC standards. In such cases you can use this SP to set the SMTP certification method directly. However, this SP can be used only encryption has been enabled.
25	Bit 0: LOGIN
	Bit 1: PLAIN
	Bit 2: CRAM_MD5
	Bit 3: DIGEST_MD5
	Bit 4 to Bit 7: Not Used
	S/MIMI: MIME Header Setting
	Selects the MIME header type of an E-mail sent by S/MIME.
26	[0 to 2 / 0 / 1]
	0: Microsoft Outlook Express standard
	1: Internet Draft standard
	2: RFC standard

5866	E-Mail Report	
1	Report Validity Enables or disables the E-mail alert function. [0 or 1 / 0 / -] 0: Enabled, 1: Disabled	
5	Add Date Field	Adds or does not add the date field to the header of the alert mail. [0 or 1 / 0 / -] 0: Not added, 1: Added

5870	Common Key Ir	nfo Writing	
3670	Writes to flash ROM the common proof for validating the device for NRS specifications.		
1	Writing		
3	Initialize	These SPs are for future use and currently are not used.	

SD Card Apli. Move Allows you to move applications from one SD card another. For more, see "SD Card A Move" in the chapter "System Maintenance (Main Chapters). 1 Move Exec Executes the move from one SD card to another. 2 Undo Exec This is an undo function. It cancels the previous execution.		SD Card Apli. Mo	ve
		Executes the move from one SD card to another.	
		This is an undo function. It cancels the previous execution.	

5875	SC Auto Reboot	
	This SP determines whether the machine reboots automatically when an SC error occurs.	
	Note: The reboot does not occur for Type A SC codes.	
1	Reboot Setting	[0 to 1/0/1] 0: The machine reboots automatically after the machine issues an SC error and logs the SC error code. If the same SC occurs again, the machine does not reboot. 1: The machine does not reboot when an SC error occurs.
2	Reboot Type	[0 to 1 / 0 / 1] 0: Manual reboot, 1: Automatic reboot

	Option Setup		
5878	Use this SP to enable the Data Overwrite Security option or HDD Encryption Option after installation.		
1 Data Overwrite Security			
2	Encryption Option		

5879	Editing Option Setup DFU
	This SP is used to install the edit option card.

5881	Fixed Phase Block Erasing DFU
5005	
5885	Set WIM Function

	i	
		Close or disclose the functions of web image monitor.
		0: OFF, 1: ON
		Bit:
		0: Forbid all document server access
		1: Forbid user mode access
20	Doc Svr Acc Ctrl	2: Forbid print function
		3: Forbid Fax
		4: Forbid scan sending
		5: Forbid download
		6: Forbid delete
		7: Forbid guest user
		Selects the display type for the document box list.
50	DocSvr Format	[0 to 2 / 0 / 1]
		0: Thumbnail, 1: Icon, 2: Details
		Sets the number of documents to be displayed in the
51	DocSvr Trans	document box list.
		[5 to 20 / 10 / 1]
		[0 to 2 / 0 / 1/step]
	Set Signature	0: Signature for each e-mail
100		1: Signature for all e-mails
100		2: No signature
	Selects whether the signature is added to the scanned documents with the WIM when	
	they are transmitted by an e-mail.	
		Determines whether the scanned documents with WIM
101	Set Encryption	are encrypted when they are transmitted by an e-mail.
101	Set Encryption	[0 to 1 / 0 / 1]
		0: Not encrypted, 1:Encryption
200	Detect Mem Leak	Not used
201	DocSvr Timeout	Not used

5007	SD Get Counter DFU
5887	This SP determines whether the ROM can be updated.
	This SP sends a text file to an SD card inserted in SD card Slot 2 (lower slot). The operation stores. The file is stored in a folder created in the root directory of the SD card called SD_COUNTER. The file is saved as a text file (*.txt) prefixed with the number of the machine.
001	 Insert the SD card in SD card Slot 2 (lower slot). Select SP5887 then touch [EXECUTE].
	2. Touch [Execute] in the message when you are prompted.

	Personal Information Protect
	Selects the protection level for logs.
5888*	[0 to 1 / 0 / 1}
	0: No authentication, No protection for logs
	1: No authentication, Protected logs (an administrator can see the logs)

	Plug & Play Maker/Model Name
5907	Selects the brand name and the production name for Windows Plug & Play. This information is stored in the NVRAM. If the NVRAM is defective, these names should be registered again.
	After selecting, press the "Original Type" key and "#" key at the same time. When the setting is completed, the beeper sounds five times.

	LCT Paper Size
	Selects the paper size for the LCT. Use this SP after changing the paper size in the optional LCT (i.e., after changing the side plate position for the LCT).
	[0 to 1 / 1 / 1] North America
5908*	0: A4
	1: LT
	[0 to 1 / 0 / 1] Other Areas (Europe/Asia)
	0: A4
	1: LT

5913	Switchover Permission Time
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Print Application Timer Sets the length of time to elapse before allowing another application to take control of the display when the application currently controlling the display is not operating because a key has not been pressed. [3 to 30 / 3 / 1 s]

5967	Copy Server: Set Function		
	Enables and disables the document server. This is a security measure that prevents image data from being left in the temporary area of the HDD. After changing this setting, you must switch the main switch off and on to enable the new setting.		
		[0 to 1 / 0 / -]	
		0: ON	
	1: OFF		

	Cherry Server
5974	Selects which version of the Scan Router application program, "Light" or "Full (Professional)", is installed.
39/4	[0 to 1 / 0 / 1 /step]
	0: Light version (supplied with this machine)
	1: Full version (optional)

	Device Setting		
	5985	The NIC and USB support features are built into the GW controller. In order to use the NIC and USB functions built into the controller board, these SP codes must be set to "1" (Default: 1 Enabled)	

On Board NIC [0 to 2 / 0 / 1 / step] 0: Disable, 1: Enable, 2: Function limitation When the "Function limitation" is set, "On board NIC" is limited only for the NRS or LDAP/ NT authentication. Note Other network applications than NRS or LDAP/NT authentication are not available when this SP is set to "2". Even though you can change the initial settings of those network applications, the settings do not work. On Board USB [0 or 1 / 0 / 1/step] 0: Disable, 1: Enable

	Mech. Counter
5987	This SP detects that a mechanical counter device is removed. If it is detected, SC610 occurs.
	0: OFF. 1: ON

	SP Print Mode (SMC Print)		
5990	In the SP mode, press Copy Window to move to the copy screen, select the paper size, then press Start. Select A4/LT (Sideways) or larger to ensure that all the information prints. Press SP Window to return to the SP mode, select the desired print, and press Execute.		
1	All (Data List)		
2	SP (Mode Data List)		
3	User Program		
4	Logging Data		
5	Diagnostic Report		
6	Non-Default (Prints only SPs set to values other than defaults.)		
7	NIB Summary		
8	Capture Log		

21	Copier User Program	
22	Scanner SP	
23	Scanner User Program	

5995 Factory Mode	DFU
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System SP Tables-6

SP6xxx: Peripherals

6006	ADF Registration Adjustment		
1	Side-to-Side: 1st Side		
	Adjusts the side-to-side registration of originals with the ARDF. [-3.0 to 3.0 / 0 / 0.1 mm/step]		
2	Side-to-Side: 2nd Side		
	Adjusts the side-to-side registration of originals with the ARDF. [-3.0 to 3.0 / 0 / 0.1 mm/step]		
3	Leading Edge		
	Adjusts the leading registration of originals with the ARDF. [-5.0 to 5.0 / 0 / 0.1 mm/step]		
5	Leading Edge: 1 st Side	Adjust the amount of paper buckle to correct original skew	
6	Leading Edge:2ns Side	for the front and rear sides. [-5.0 to 5.0 / 0 / 0.1 mm/step]	
7	Trailing Edge Erase		
	Adjusts the erase margin at the original trailing edge. [-5.0 to 5.0 / 0 / 0.1 mm/step]		

	ADF Input Check	
6007	Displays the signals received from the sensors and switches of the ARDF. Only Bit 0 is used for ADF input check.	

1	Original B5 Sensor	
2	Original A4 Sensor	
3	Original LG Sensor	
4	Original Width Sensor S	
5	Original Width Sensor M	
6	Original Width Sensor L	0: Paper not detected
7	Original Width Sensor LL	1: Paper detected
9	Original Set Sensor	
10	Rear Edge Detection	
11	Skew Correction Sensor	
13	Registration Sensor	
14	Exit Sensor	
15	Top Cover Sensor	0: Cover closed, 1: Cover open
16	Lift Sensor	0: ADF closed, 1: ADF open

6008	ADF Output Check		
8006	Switches on each electrical component (motors, solenoids, etc.) of the ARDF for testing.		
3 Feed Motor: Fwd			
4	Feed Motor: Rev		
5	Transport Motor: Fwd		
6	Transport Motor: Rev		
9	Feed Clutch		
10	Feed Solenoid		
11	Junction Gate Solenoid		
12	Stamp Solenoid		

	ADF Free Run
6009	Performs an ARDF free run in duplex mode. Press [ON] to start, press [OFF] to stop.
	Note: This is a general free run controlled from the copier.

	Stamp Position Adj.
6010*	Adjusts the stamp position in the sub-scan direction in fax mode.
	[-5.0 to +5.0 / 0 / 1 mm/step]

	Original :	Original Size Detection Priority		
6016*	Specifies the original size for a size detected by the original sensor, since original sensors cannot recognize all sizes.			
	(7) 0000	(7) 0000 0000 (0)		
	Different bits are used for detection, depending on the location as shown below		ding on the location as shown below.	
	Bit	Size	Location	
	7	A4 (L)/LT (L)	lee ee aak	
	6	11" x 15"/DLT (L)	Japan only	
	5	DLT (L)/ 11" x 15"		
	4	LT (S)/ US Exec (S)	NA only	
	3	LT (L)/ 8" x 10" (L)	TNA Only	
	2	LG (L)/ F4 (L)		
	1	A4 (L)/ 16K (L)	ELL/AAL.	
	0	8K (L)/ DLT (L)	EU/AA only	

	Sheet Through Magnification
6017	Adjusts the magnification in the sub-scan direction for the ARDF.
	[-5.0 to 5.0 / 0 / 0.1 %/step]

4117	Finisher Input Check
0117	Displays the signals received from finisher sensors and switches. (See the tables below.)

1	Group 1	
2	Group 2	
3	Group 3 (Only 1000 Fin)	
4	Group 4 (Only 1000 Fin)	

Check the status of each item against the 8-digit bit display listed in the table below.

Number	Bit	Description	Red	ading
Number	DII	Description	0	1
	7	Stack Feed-out Belt HP Sensor	Activated	Deactivated
	6	Not Used		
	5	Jogger Fence HP Sensor	Activated	Deactivated
Carre 1	4	Stapler HP Sensor	Activated	Deactivated
Group 1	3	Stapler Tray Entrance Sensor	Activated	Deactivated
	2	Not Used		
	1	Lower Tray Exit Sensor	Activated	Deactivated
	0	Entrance Sensor	Activated	Deactivated

Number	Bit	Description	Red	ading
Number	DII	Description	0	1
	7	Not Used		
	6	Not Used		
	5	Stapler Ready Signal	Activated	Deactivated
Craup 2	4	Not Used		
Group 2	3	Not Used		
	2	Staple Sensor	Activated	Deactivated
	1	Staple Hammer HP Sensor	Activated	Deactivated
	0	Stapler Tray Paper Sensor	Activated	Deactivated

Number	Bit	Danadakan	Red	ading
Number	DIT	Description	0	1
	7	Not Used		
	6	Lower Tray Lower Limit Sensor	Activated	Deactivated
	5	Not used		
C 2	4	Stack Height Sensor	Activated	Deactivated
Group 3	3	Not Used		
	2	Not Used		
	1	Shift HP Sensor	Activated	Deactivated
	0	Exit Guide HP Sensor	Activated	Deactivated

Number	Bit	Description	Red	ading
Number	DII	Description	0	1
	7	Not Used		
	6	Not Used		
	5	Not Used		
Crown 4	4	Not Used		
Group 4	3	Upper Tray Paper Limit Sensor	Activated	Deactivated
	2	Not Used		
	1	Not Used		
	0	Not Used		

	Finisher Output Check
6118	Switches on each electrical component of the finisher for testing. Press [1] to switch on or [0] to switch off.
1	Upper Transport/Main Motor
2	Shift Tray Lift/Tray Motor

3	Staple Hammer Motor
4	Shift/Jogger Motor
5	Lower Transport Motor
6	Shift Tray Exit Motor
7	Tray Junction Gate Sol
8	Jogger Motor
9	Stapler Motor
10	Stapler Junction Gate Motor
11	Positioning Roller Sol
12	Stack Feed-Out Motor
13	Exit Guide Motor
14	Paddle Sol
15	Exit Unit Gear Sol
16	Stack Height Lever Sol
17	Transport Motor

6128	Punch Position: Sub Scan	
Adjusts the punching position in the sub so		scan direction.
1	Domestic 2Hole (Europe 2Hole)	
2	North America 3Hole	
3	Europe 4Hole	[-7.5 to 7.5 / 0 / 0.5 mm/step]]
4	North Europe 4Hole	
5	North Europe 2Hole	

4100	Punch Position: Main Scan	
6129	Adjusts the punching position in the main scan direction.	

1	Domestic 2Hole (Europe 2Hole)	
2	North America 3Hole	
3	Europe 4Hole	[-2.0 to 2.0 / 0 / 0.4 mm/step]]
4	North Europe 4Hole	
5	North Europe 2Hole	

6130	Skew Correction: Buckle Adj.		
0130	Adjusts the paper buckle for each paper size (B793 finisher).		
1	A3T (SEF)		
2	B4T (SEF)		
3	A4T (SEF)		
4	A4Y (LEF)		
5	B5T (SEF)		
6	B5Y (LEF)	[50to 50/0/025 mm/ston]]	
7	DLT-T (SEF)	[-5.0 to 5.0 / 0 / 0.25 mm/step]]	
8	LG-T (SEF)		
9	LT-T (SEF)		
10	LT-Y (LEF)		
11	12" x 18"		
12	Other		

6131	Skew Correction Control
0131	Selects the skew correction control for each paper size. These are only activated for B793.

1	A3T (SEF)	
2	B4T (SEF)	
3	A4T (SEF)	
4	A4Y (LEF)	
5	B5T (SEF)	
6	B5Y (LEF)	[0 or 1 / 0 / 1/step]] 0: No (No skew correction)
7	DLT-T (SEF)	1: Roller Stop Skew Correction
8	LG-T (SEF)	
9	LT-T (SEF)	
10	LT-Y (LEF)	
11	12" x 18"	
12	Other	

	Jogger Fence Fine Adj
6132	This SP adjusts the distance between the jogger fences and the sides of the stack on the finisher stapling tray in the Booklet Finisher B793. The adjustment is done perpendicular to the direction of paper feed.

1	A3T (SEF)		
2	B4T (SEF)		
3	A4T (SEF)		
4	A4Y (LEF)		
5	B5T (SEF)	[-1.5 to 1.5 / 0 / 1/step]	
6	B5Y (LEF)	+ Value: Increases distance between jogger fences and the sides of the stack.	
7	DLT-T (SEF)	- Value: Decreases the distance between the jogger fend and the sides of the stack.	
8	LG-T (SEF)		
9	LT-T (SEF)		
10	LT-Y (LEF)		
11	12" x 18"		
12	Other		

	Staple Position Adjustment			
6133	Adjusts the staple position for each finisher (B408/B793/D372). + Value: Moves the staple position to the rear side. - Value: Moves the staple position to the front side.			
1	Finisher 1 (B408/B793)	[-3.5 to 3.5 / 0 / 1/step]]		

6134	Saddle Stitch Position Adjustment	
	Use this SP to adjust the stapling position of the booklet stapler when paper is stapled and folded in the Booklet Finisher B793.	

1	A3T (SEF)	
2	B4T (SEF)	
3	A4 T (SEF)	
4	B5 T (SEF)	[-3.0 to 3.0 / 0 / 0.2 mm/step]
5	DLT-T (SEF)	+ Value: Shifts staple position toward the crease.
6	LG-T (SEF)	- Value: Shifts staple position away from the crease.
7	LT-T (SEF)	
8	12" x 18"	
9	Other	

6135	Folder Position Adjustment		
	This SP corrects the folding position when paper is stapled and folded in the Booklet Finisher B793.		
1	A3T (SEF)		
2	B4 T (SEF)		
3	A4 T (SEF)		
4	B5 T (SEF)	[-3.0 to 3.0 / 0 / 0.2 mm/step]	
5	DLT-T (SEF)	+ Value: Shifts staple position toward the crease.	
6	LG-T (SEF)	- Value: Shifts staple position away from the crease.	
7	LT-T (SEF)		
8	12" x 18"		
9	Other		

6136	Folding Number
	This SP sets the number of times the folding rollers are driven forward and reverse to sharpen the crease of a folded booklet before it exits the folding unit.
	[2 to 30/2/1 times]

6137	Fin. Free Run	
0137	These SPs are used only for B793 finisher.	
1	Free Run 1 Free run for paper edge stapling.	
2	Free Run 2 Free run for booklet stapling.	
3	Free Run 3	Shipping free run. Simulates standby conditions during shipping.
4	Free Run 4	DFU

6138	FIN (TIG) Input Check 1000-Sheet Finisher B793			
	Note: The names in parentheses are the names used in the service manuals.			
	Component	0	1	
1	Interference Escape Sensor (Stapler Safety Sensor)	Inactive	Active	
2	Staple Moving HP Sensor (Staple Unit HP Sensor)	Not HP	At HP	
3	Stuck Relay 1 Release HP Sensor (Stopper S HP Sensor)	Not HP	At HP	
4	Exit Junction Gate HP Sensor (Stack Feed Out HP Sensor)	At HP	Not HP	
5	Jogger HP Sensor (Jogger Fence HP Sensor)	Not HP	At HP	
6	Staple Tray Paper Sensor (Staple Tray Paper Sensor)	No Paper	Paper	
7	Rear Edge Fence HP Sensor (Paper Stack Stopper HP Sensor)	Not HP	At HP	
8	Saddle Stitch Exit Sensor	Paper	No Paper	
9	Stuck Relay2 Roller HP Sensor (Clamp Roller HP Sensor)	At HP	Not HP	

10	Folder Tray Full Sensor 1 (Bottom Tray HP 1 Sensor)	Full	Not full
11	Folder Tray Full Sensor 2 (Bottom Tray HP 2 Sensor)	Not full	Full
12	Folder Plate HP Sensor (Fold Plate HP Sensor)	Not HP	At HP
13	Saddle Stitch Arrival Sensor (Fold Unit Entrance Sensor)	No Paper	Paper
14	Folder Cam HP Sensor (Fold Plate Cam HP Sensor)	Not HP	At HP
15	Staple Exit Sensor (Stapler Tray Exit Sensor)	Paper	No Paper
16	Shift Tray Paper Sensor (Shift Tray Paper Position Sensor)	No Tray	Tray
17	Shift Tray Full	Full	Nor full
18	Shift Roller HP Sensor	Not HP	At HP
20	Entrance Sensor (Finisher Entrance Sensor)	Paper	No Paper
21	Shift Exit Sensor (Shift Tray Exit Sensor)	No Paper	Paper
22	Proof Exit Sensor (Proof Tray Exit Sensor)	Paper	No Paper
23	Exit Guide Plate HP Sensor	Not HP	At HP
24	Proof Full Sensor (Proof Tray Full Sensor)	Not full	Full
25	Upper Cover Sensor	Open	Close
26	Door SW (Front Door Switch)	Close	Open
27	Clincher Timing Sensor	En	coder
28	Clincher HP Sensor	At HP	Not HP

29	Driver Timing Sensor	Encoder	
30	Staple Near End	Staples Remain	Staples N.E.
31	Self Priming	Staples	No Staples
32	Driver HP Sensor	At HP	Not HP
33	Punch Registration Detection HP Sensor	Not HP	At HP
34	Punch Moving HP Sensor (Punch Movement HP Sensor)	Not HP	At HP
35	Punch HP Sensor (Punch HP Sensor)	At HP	Not HP
36	Punch Pulse Count Sensor (Punch Encoder Sensor)	Encoder	
37	Punch Chad Full Sensor (Punch Hopper Full Sensor)	Not full	Full
38	Punch Registration Detection Sensor (Paper Position Sensor)	Paper	No Paper

6139	FIN (KIN) Input Check	1000-Sheet Finisher B	408
	Note: The names in parentheses are the names used in the service manuals.		anuals.
	Component	0	1
1	Entrance Sensor	Paper	No Paper
2	Shift Exit Sensor (Lower Tray Exit Sensor)	No Paper	Paper
3	Staple Entrance Sensor (Stapler Tray Entrance Sensor)	Paper	No Paper
4	Staple Moving HP Sensor (Stapler HP Sensor)	Not HP	At HP
5	Jogger HP Sensor (Jogger Fence HP Sensor)	Not HP	At HP

6	Stack Feed-out Belt HP Sensor	At HP	Not HP
7	Staple Tray Paper Sensor	No Paper	Paper
8	Staple Rotation Sensor (Staple Rotation HP Sensor)	Not HP	At HP
9	Staple Sensor	Staples	No Staples
10	Staple READY Detection	Staples	No Staples
11	Exit Guide Plate HP (Exit Guide Plate HP Sensor)	Not HP	At HP
12	Shift HP Sensor	Not HP	At HP
13	Paper Sensor (Stack Height Sensor)	No Tray	Tray
14	Tray Lower Sensor (Lower Tray Lower Limit Sensor)	Lower limit	Not Lower Limit
15	Proof Full Sensor (Paper Limit Sensor)	Not Full	Full

6143	FIN (TIG) Output Check	1000-Sheet Finisher B793
	Displays the signals received from sensors and switches of the booklet finisher.	
	Note : In the table below, "Display" is what you see on the screen, and "Component" is the name used in the service manuals.	
	Display	Component
1	Shift Motor	Shift Tray Motor
2	Entrance Motor	-
3	Staple Relay Motor	Stapler Unit Motor
4	Knock Solenoid	
5	Junction Gate SOL 1	Proof Tray Gate Solenoid
6	Junction Gate SOL 2	Staple Tray Gate Solenoid
7	Folder Roller Rotation Motor	Fold Roller Motor

8	Staple Motor	Staple Fold Motor
10	Exit Guide Plate Motor	-
11	Shift Relay Motor	Upper Transport Motor
12	Tray Motor	Shift Tray Motor
13	Stack Feed-out Motor	Positioning Roller Solenoid
14	Stuck Relay 1 Motor	Upper Clamp Roller Motor
15	Stuck Relay 1 Release Motor	Upper Retraction Motor
16	Rear Edge Fence Drive Motor	Bottom Fence Lift Motor
17	Folder Plate Motor	-
18	Drive Roller Oscillating Motor	Lower Retraction Motor
19	Staple Moving Motor	Staple Unit Driver Motor
20	Jogger Motor	Jogger Motor
21	Punch Registration Moving Motor	Paper Position Sensor Slide Motor
22	Punch Motor	-
23	Punch Moving Motor	Punch Movement Motor

6144	FIN (KIN) Output Check	1000-Sheet Finisher B408
	Displays the signals received from sensors and switches of the booklet finisher. Note: In the table below, "Display" is what you see on the screen, and "Component" is the name used in the service manuals.	
	Display	Component
1	Relay Up Motor	Upper Transport Motor
2	Relay Down Motor	Lower Transport Motor
3	Exit Motor	-
4	Proof Junction Gate SOL	Tray Junction Gate Solenoid
5	Tray Up Motor	Lower Tray Lift Motor
6	Jogger Motor	Jogger Fence Motor

7	Staple Moving Motor	Stapler Motor
8	Staple Motor	Stapler Hammer
9	Staple Junction Gate SOL	Stapler Junction Gate Solenoid
10	Positioning Roller Solenoid	Positioning Roller Solenoid
11	Stack Feed-out Motor	-
12	Shift Motor	-
13	Exit Guide Plate Motor	-

6145	FIN (ELB) Input Check	500-Sheet Finisher D37	2
	Displays the signals received from sensors and switches of the finisher. Note: • The names in parentheses below are the names used in the service manuals. "O" means LOW, "1" means HIGH.		anuals.
	Component	0	1
1	Entrance Sensor	Paper	No Paper
2	Hitroll HP Sensor (Positioning Roller HP Sensor)	Not HP	At HP
3	Front Jogger HP Sensor (Front Fence HP Sensor)	Not HP	At HP
4	Rear Jogger HP Sensor (Rear Fence HP Sensor)	Not HP	At HP
5	Staple Tray Paper Sensor	Paper	No Paper
6	Staple Moving HP Sensor (Stapler HP Sensor)	Not HP	At HP
7	Stack Feed-Out Belt HP Sensor	Not HP	At HP
8	Shift Tray Paper Sensor	Not HP	At HP
9	Upper Cover Sensor	Not HP	At HP
10	Stapler Rotation Sensor	НР	Not HP

11	Staple Near End Sensor	НР	Not HP
12	Self Priming (Stapler)	HP	Not HP
13	Shift Tray Limit Sensor (Tray Upper Limit SW)	Not Full	Full

6146	FIN (ELB) Output Check	500-Sheet Finisher D372
	Displays the signals received from sensors and switches of the booklet finisher. Note: In the table below, "Display" is what you see on the screen, and "Component" is the name used in the service manuals.	
	Display	Component
1	Carry Motor	Transport Motor
2	Hitroll Motor	Positioning Roller Arm Motor
3	Front Jogger Motor	Front Fence Motor
4	Rear Jogger Motor	Rear Fence Motor
5	Staple Moving Motor	Stapler Movement Motor
6	Stack Feed-Out Motor	Feed-Out Belt Motor
7	Tray Motor	Tray Lift Motor
8	Staple Motor	Stapler Motor
9	Stopper Solenoid	Stack Depressor Solenoid

6800	Sheet Conversion (Thick Paper)
	Permits punching, including tab sheets.
	Note: Do not change this setting.
	[1 to 3/3/1 sheet]
	1: 1 Sheet
	2: 2 Sheets
	3: 3 Sheets

System SP Tables-7

SP7xxx: Data Log

	Main Motor Operation Time
7001*	The number of prints and drive time for drum revolutions can be obtained by counting the main motor revolution time. If the amount of the time required for the drum to revolve to print 1 copy increases, this data combined with the number of copies can be used to analyze problems and could be useful for future product development. Display: 0000000 to 9999999 min.

7401*	Total SC Counter
7401	Displays the total number of service calls that have occurred.

7403*	SC History	
1	Latest	
2	Latest 1	
3	Latest 2	
4	Latest 3	
5	Latest 4	Dialogo de contra de la contra del contra de la contra del contra de la contra del la
6	Latest 5	Displays the most recent 10 service calls.
7	Latest 6	
8	Latest 7	
9	Latest 8	
10	Latest 9	

7502*	Total Paper Jam Counter
7302	Displays the total number of paper jams.

4

7503*	Total Original Jam Counter	
1	Displays the total number of original jams.	

	Paper Jam Location				
	These SPs display the total number of paper jams by location. A "Check-in" (paper late) error occurs when the paper fails to activate the sensor at the precise time.				
	Note				
7504*	 Lag. Jam occurs when the paper remains at the sensor for longer than the prescribed time. 				
	Late: Jam occurs because paper fails to arrive at the prescribed time.				
	KIN. 1000-Sheet Finisher (B408)				
	TIG. 1000-Sheet Finisher (B793)				
	ELB. 500-Sheet Finisher (D372)				
1	At Power On				
3	Tray 1: No Feed				
4	Tray 2: No Feed				
5	Tray 3: No Feed				
6	Tray 4: No Feed				
7	LCT: No Feed				
8	Bypass PE Sn: Off				
9	Duplex: No Feed				
11	Trans 1 Sn: Late				
12	Trans 2 Sn: Late				
13	Bank Trans 1: Late				
17	Registration Sn: Late				
20	Main Exit Sn: Late				
21	Bridge Exit Sn: Late				
22	Bridge Trans Sn: Late				

25	Junction Gate Sn: Late
26	Jct Inv Sn: Late
27	Duplex Ent Sn: Late
51	Trans 1 Sn: Lag
52	Trans 2 Sn: Lag
53	Trans 3 Sn: Lag
57	Registration Sn: Lag
58	LCT Trans Sn: Lag
60	Main Ex Sn: Lag
61	Bridge Ex Sn: Lag
62	Bridge Trans Sn: Lag
65	Jct Gate Sn: Lag
66	Jct Inv Sn: Lag
67	Duplex Ent Sn: Lag
100	FIN Entrance: KIN
101	FIN Shift Tray Exit:KIN
102	FIN Staple: KIN
103	FIN Exit: KIN
105	FIN Tray Lift Motor: KIN
106	FIN Jogger Motor: KIN
107	FIN Shift Motor: KIN
108	FIN Staple Motor: KIN
109	FIN Exit Motor: KIN
130	FIN Entrance: TIG
131	FIN Proof Tray Exit: TIG
132	FIN Shift Tray: TIG

133	FIN Staple Exit: TIG
134	FIN Exit: TIG
135	FIN Fold: TIG
136	FIN Fold: TIG
137	FIN Guide Gate Motor: TIG
138	FIN Staple Shift Motor: TIG
139	FIN Paper Punch Motor: TIG
140	FIN Tray Lift Motor: TIG
141	FIN Jogger Motor: TIG
142	FIN Shift Motor: TIG
143	FIN Staple Motor: TIG
144	FIN Staple Motor: TIG
145	FIN Exit Motor: TIG
146	FIN Stack 1 Release Motor: TIG
147	FIN Stack 2 Release Motor: TIG
148	FIN Stopper Motor: TIG
160	Entrance Sensor On: ELB
161	Entrance Sensor Off: ELB
162	FIN Entrance: ELB
163	Positioning Roller: ELB
164	Front Jogger Motor: ELB
165	Rear Jogger Motor: ELB
166	Exit Motor: ELB
167	FIN Staple Shift Motor: ELB
168	FIN Staple Motor: ELB
169	FIN Tray Lift Motor: ELB

170 FIN Stack Height SOL: ELB

	Original Jam Location			
	Displays the total number of original jams by location. These jams occur when the original does not activate the sensors.			
7505	Note			
	 Lag. Jam occurs when the paper remains at the sensor for longer than the prescribed time. 			
	Late: Jam occurs because paper fails to arrive at the prescribed time.			
1	At Power On			
3	Skew Correction Sn: Late			
4	Registration Sn: Late			
5	Exit Sn: Late			
53	Skew Correction Sn: Lag			
54	Registration Sn: Lag			
55	Exit Sn: Lag			

7506*	Jam Count by Paper Size
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5	A4 LEF	
6	A5 LEF	
14	B5 LEF	
38	LT LEF	
44	HLT LEF	
132	A3 SEF	
133	A4 SEF	
134	A5 SEF	Displays the total number of copy jams by paper size.
141	B4 SEF	
142	B5 SEF	
160	DLT SEF	
164	LG SEF	
166	LT SEF	
172	HLT SEF	
255	Others	

7507*	Plotter Jam History
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7507 1 7507 2 7507 3 7507 4 7507 5 7507 6 7507 7 7507 8 7507 9 7507 10	Last Latest 1 Latest 2 Latest 3 Latest 4 Latest 5 Latest 6 Latest 7 Latest 8 Latest 9	Displays the copy Sample Display: CODE:007 SIZE:05h TOTAL:0000334 DATE: Mon Mar where: CODE is the SP75 SIZE is the ASAP p TOTAL is the total DATE is the date the	15 11:44:5 504-*** nu paper size c jam error co	mber (see above. ode in hex. ount (SP7502))
Size	Code	Size	Code	Size	Code
A4 (S)	05	A3 (L)	84	DLT (L)	A0
A5 (S)	06	A4 (L)	85	LG (L)	A4
B5 (S)	OE	A5 (L)	86	LT (L)	A6
LT (S)	26	B4 (L)	8D	HLT (L)	AC
HLT (S)	2C	B5 (L)	8E	Others	FF

7508*	Original Jam History
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1	Last	
2	Last 1	Displays the original jam history (the most recent 10 jams).
		Sample Display:
3	Last 2	CODE:007
4	Last 3	SIZE:05h
5	Last 4	TOTAL:0000334
	2431 4	DATE: Mon Mar 15 11:44:50 2000
6	Last 5	where:
7	Last 6	CODE is the SP7505*** number (see above.
		-
8	Last 7	SIZE is the ASAP paper size code in hex.
		TOTAL is the total error count (SP7503)
9	Last 8	DATE is the date the jams occurred.
10	Last 9	Divite to the date the jame occorred.
	I.	

	ROM No./Firmware Version	
7801	This SP codes display the firmware versions of all ROMs in the system, including the mainframe, the ARDF, and peripheral devices.	

7803*	PM Counter Display	
7803	Displays the PM counter since the last PM.	
1	Paper	
2	Sheets 60K Part	
3	Sheets 120K Part	
4	Distance (mm) 60 K	
5	Distance (mm) 120 K	
6	Distance 60K	
7	Distance 120K	

7804	PM Counter Resets
7 604	Resets the PM counter. To reset, press Execute on the touch panel.

1	Paper	
2	60K part	
3	120K part	

	SC/Jam Counter Reset
7807	Resets the SC and jam counters. To reset, press Execute on the touch panel.
	This SP does not reset the jam history counters: SP7507, SP7508.

	7826	MF Error Counter Japan Only	
	/ 020	Displays the number of counts requested of the card/key counter.	
	1	Error Total	A request for the count total failed at power on. This error will occur if the device is installed but disconnected.
	2	Error Staple	The request for a staple count failed at power on. This error will occur if the device is installed but disconnected.

7827	MF Error Counter Clear Japan Only
/ 62/	Press Execute to reset to 0 the values of SP7826. Japan Only

	Self-Diagnose Result Display
7832	Execute to open the "Self-Diagnostics Result Display" to view details about errors. Use the keys in the display on the touch-panel to scroll through all the information. If no errors have occurred, you will see the "No Error" message on the screen.

7834	Coverage Data Clear
7634	These SPs clear the counters for the following items.
1	Last & Average
2	No. of Toner Bottles
3	Page Count: Bottle
4	Dot Coverage Clear
255	All Coverage Data

7836	Total Memory Size
/630	Displays the memory capacity of the controller system.

	ADF Exposure Glass	
7852*	Counts the number of occurrences (0 to 65,535) when dust was detected on the scanning glass of the ADF.	
1*	Dust Check Counter Counts the occurrences. Counting is done only if SP4020 1 (ADF Scan Glass Dust Check) is switched on.	
2*	Dust Check Clear Counter	Clears the count. Memory All Clear (SP5801) resets this counter to zero.

70.54	Zero Cross	
7856	Stores and displays the detected zero cross frequency for main power ac.	

	Assert Info. DFU	
7901*	These SP numbers display the results of the occurrence of the most recent SC code generated by the machine.	
1*	File Name	Module name
2*	Number of Lines	Number of the lines where error occurred.
3*	Location	Value

	Last PM Count	
7906	Displays the most recent PM count for 60K and 120K service parts ("60K" and "120" refer to service life).	
2	Sheets 60K Part	
3	Sheets 120K Part	
4	Distance (mm) 60 K	
5	Distance (mm) 120 K	
6	Distance 60K	

7	Distance 120K	

	Before 2 PM Count	
7907	Displays the PM count before the most recent PM count for 60K and 120K service parts ("60K" and "120" refer to service life).	
1	Рарег	
2	Sheets 60K Part	
3	Sheets 120K Part	
4	Distance (mm) 60 K	
5	Distance (mm) 120 K	
6	Distance 60K	
7	Distance 120K	

	Before 3 PM Count		
7908	Displays the PM count two counts the most recent PM count for 60K and 120K service parts ("60K" and "120" refer to service life).		
1	Paper		
2	Sheets 60K Part		
3	Sheets 120K Part		
4	Distance (mm) 60 K		
5	Distance (mm) 120 K		
6	Distance 60K		
7	Distance 120K		

System SP Tables-8

SP8xxx: Data Log 2

Many of these counters are provided for features that are currently not available, such as sending color faxes, and so on. However, here are some Group 8 codes that when used in combination with others, can provide useful information.

SP Numbers	What They Do
SP8211 - SP8216	The number of pages scanned to the document server.
SP841 - SP8406	The number of pages printed from the document server
SP8691 - SP8696	The number of pages sent from the document server

Specifically, the following questions can be answered:

- How is the document server actually being used?
- What application is using the document server most frequently?
- What data in the document server is being reused?

Most of the SPs in this group are prefixed with a letter that indicates the mode of operation (the mode of operation is referred to as an 'application'). Before reading the Group 8 Service Table, make sure that you understand what these prefixes mean.

Prefixes	What It Means	
T:	Total: (Grand Total).	Grand total of the items counted for all applications (C, F, P, etc.).
C:	Copy application.	
F:	Fax application.	Totals (pages, jobs, etc.) executed for each application
P:	Print application.	when the job was not stored on the document server.
S:	Scan application.	

Prefixes	What It Means	
L:	Local storage (document server)	Totals (jobs, pages, etc.) for the document server. The L: counters work differently case by case. Sometimes, they count jobs/pages stored on the document server; this can be in document server mode (from the document server window), or from another mode, such as from a printer driver or by pressing the Store File button in the Copy mode window. Sometimes, they include occasions when the user uses a file that is already on the document server. Each counter will be discussed case by case.
O:	Other applications (external network applications, for example)	Refers to network applications such as Web Image Monitor. Utilities developed with the SDK (Software Development Kit) will also be counted with this group in the future.

The Group 8 SP codes are limited to 17 characters, forced by the necessity of displaying them on the small LCDs of printers and faxes that also use these SPs. Read over the list of abbreviations below and refer to it again if you see the name of an SP that you do not understand.

Key for Abbreviations

Abbreviation	What It Means
/	"By", e.g. "T:Jobs/Apl" = Total Jobs "by" Application
>	More (2> "2 or more", 4> "4 or more"
AddBook	Address Book
Apl	Application
B/W	Black & White
Bk	Black
С	Cyan
ColCr	Color Create
ColMode	Color Mode
Comb	Combine
Comp	Compression
Deliv	Delivery

Abbreviation	What It Means	
DesApl	Designated Application. The application (Copy, Fax, Scan, Print) used to store the job on the document server, for example.	
Dev Counter	Development Count, no. of pages developed.	
Dup, Duplex	Duplex, printing on both sides	
Emul	Emulation	
FC	Full Color	
FIN	Post-print processing, i.e. finishing (punching, stapling, etc.)	
Full Bleed	No Margins	
GenCopy	Generation Copy Mode	
GPC	Get Print Counter. For jobs 10 pages or less, this counter does not count up. For jobs larger than 10 pages, this counter counts up by the number that is in excess of 10 (e.g., for an 11-page job, the counter counts up 11-10 = 1)	
IFax	Internet Fax	
ImgEdt	Image Edit performed on the original with the copier GUI, e.g. border removal, adding stamps, page numbers, etc.	
K	Black (YMCK)	
LS	Local Storage. Refers to the document server.	
LSize	Large (paper) Size	
Mag	Magnification	
МС	One color (monochrome)	
NRS	New Remote Service, which allows a service center to monitor machines remotely. "NRS" is used overseas, "CSS" is used in Japan.	
Org	Original for scanning	
OrgJam	Original Jam	
Palm 2	Print Job Manager/Desk Top Editor: A pair of utilities that allows print jobs to be distributed evenly among the printers on the network, and allows files to moved around, combined, and converted to different formats.	

Abbreviation	What It Means	
PC	Personal Computer	
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count of two pages, and A3 simplex count as two pages if the A3/DLT counter SP is switched ON.	
PJob	Print Jobs	
Ppr	Paper	
PrtJam	Printer (plotter) Jam	
PrtPGS	Print Pages	
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.	
Rez	Resolution	
SC	Service Code (Error SC code displayed)	
Scn	Scan	
Sim, Simplex	Simplex, printing on 1 side.	
S-to-Email	Scan-to-E-mail	
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.	
Svr	Server	
TonEnd	Toner End	
TonSave	Toner Save	
TXJob	Send, Transmission	
YMC	Yellow, Magenta, Cyan	
YMCK	Yellow, Magenta, Cyan, BlacK	



 $\bullet\,$ All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear, or the Counter Reset SP7 808.

8001	T:Total Jobs				
8002	C:Total Jobs	These SPs count the number of times each application is used to do a job.			
8003	F:Total Jobs	[0 to 9999999/ 0 / 1]			
8004	P:Total Jobs	Note: The L: counter is the total number of times the othe applications are used to send a job to the document ser			
8005	S:Total Jobs	plus the number of times a file already on the document server is used.			
8006	L:Total Jobs	is used.			

- These SPs reveal the number of times an application is used, not the number of pages processed.
- When an application is opened for image input or output, this counts as one job.
- Interrupted jobs (paper jams, etc.) are counted, even though they do not finish.
- Only jobs executed by the customer are counted. Jobs executed by the customer engineer using the SP modes are not counted.
- When using secure printing (when a password is required to start the print job), the job is counted at the time when either "Delete Data" or "Specify Output" is specified.
- A job is counted as a fax job when the job is stored for sending.
- When a fax is received to fax memory, the F: counter increments but the L: counter does not (the document server is not used).
- A fax broadcast counts as one job for the F: counter (the fax destinations in the broadcast are not counted separately).
- A fax broadcast is counted only after all the faxes have been sent to their destinations. If one
 transmission generates an error, then the broadcast will not be counted until the transmission has been
 completed.
- A printed fax report counts as one job for the F: counter.
- The F: counter does not distinguish between fax sending or receiving.
- When a copy job on the document server is printed, SP8022 also increments, and when a print job stored on the document server is printed, SP8024 also increments.
- When an original is both copied and stored on the document server, the C: and L: counters both increment.
- When a print job is stored on the document server, only the L: counter increments.
- When the user presses the Document Server button to store the job on the document server, only the L: counter increments.
- When the user enters document server mode and prints data stored on the document server, only the L: counter increments.
- When an image received from Palm 2 is received and stored, the L: counter increments.

• When the customer prints a report (user code list, for example), the O: counter increments. However, for fax reports and reports executed from the fax application, the F: counter increments.

8011	T:Jobs/LS C:Jobs/LS	
8013	F:Jobs/LS	These SPs count the number of jobs stored to the document server by each application, to reveal how local storage is being used for input.
8014	P:Jobs/LS	[0 to 9999999 / 0 / 1]
8015	S:Jobs/LS	The L: counter counts the number of jobs stored from within
8016	L:Jobs/LS	the document server mode screen at the operation panel.
8017	O:Jobs/LS	

- When a scan job is sent to the document server, the S: counter increments. When you enter document server mode and then scan an original, the L: counter increments.
- When a print job is sent to the document server, the P: counter increments.
- When a network application sends data to the document server, the O: counter increments.
- When an image from Palm 2 is stored on the document server, the O: counter increments.
- When a fax is sent to the document server, the F: counter increments.

8021	T:Pjob/LS	
8022	C:Pjob/LS	
8023	F:Pjob/LS	These SPs reveal how files printed from the document server were stored on the document server originally.
8024	P:Pjob/LS	[0 to 9999999/ 0 / 1]
8025	S:Pjob/LS	The L: counter counts the number of jobs stored from within the document server mode screen at the operation panel.
8026	L:Pjob/LS	mis assertion meas screen at the operation parties.
8027	O:Pjob/LS	

- When a copy job stored on the document server is printed with another application, the C: counter increments.
- When an application like DeskTopBinder merges a copy job that was stored on the document server with a print job that was stored on the document server, the C: and P: counters both increment.
- When a job already on the document server is printed with another application, the L: counter increments.

- When a scanner job stored on the document server is printed with another application, the S: counter increments. If the original was scanned from within document server mode, then the L: counter increments.
- When images stored on the document server by a network application (including Palm 2), are printed with another application, the O: counter increments.
- When a copy job stored on the document server is printed with a network application (Web Image Monitor, for example), the C: counter increments.
- When a fax on the document server is printed, the F: counter increments.

8031	T:Pjob/DesApl	
8032	C:Pjob/DesApl	
8033	F:Pjob/DesApl	These SPs reveal what applications were used to output documents from the document server.
8034	P:Pjob/DesApl	[0 to 9999999/ 0 / 1]
8035	S:Pjob/DesApl	The L: counter counts the number of jobs printed from within the document server mode screen at the operation panel.
8036	L:Pjob/DesApl	and assenting and assenting and particular
8037	O:Pjob/DesApl	

- When documents already stored on the document server are printed, the count for the application that started the print job is incremented.
- When the print job is started from a network application (Desk Top Binder, Web Image Monitor, etc.)
 the L: counter increments.

8041	T:TX Jobs/LS	These SPs count the applications that stored files on the
8042	C:TX Jobs/LS	document server that were later accessed for transmission over the telephone line or over a network
8043	F:TX Jobs/LS	(attached to an e-mail, or as a fax image by I-Fax).
8044	P:TX Jobs/LS	[0 to 9999999 / 0 / 1] Note:
8045	S:TX Jobs/LS	Jobs merged for sending are counted separately.
8046	L:TX Jobs/LS	The L: counter counts the number of jobs scanned from within the document server mode screen at the
8047	O:TX Jobs/LS	operation panel.

- When a stored copy job is sent from the document server, the C: counter increments.
- When images stored on the document server by a network application or Palm2 are sent as an email, the O: counter increments.

8051	T:TX Jobs/DesApl	
8052	C:TX Jobs/DesApl	These SPs count the applications used to send files from
8053	F:TX Jobs/DesApl	the document server over the telephone line or over a network (attached to an e-mail, or as a fax image by I-
8054	P:TX Jobs/DesApl	Fax). Jobs merged for sending are counted separately.
8055	S:TX Jobs/DesApl	[0 to 9999999 / 0 / 1] The L: counter counts the number of jobs sent from within
8056	L:TX Jobs/DesApl	the document server mode screen at the operation panel.
8057	O:TX Jobs/DesApl	

• If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

8061	T:FIN Jobs [0 to 9999999/ 0 / 1]			
	These SPs total the finishing methods. The finishing method is specified by the application.			
	C:FIN Jobs	[0 to 9999999/ 0 / 1]		
8062	These SPs total finishing methods for copy jobs only. The finishing method is specified by the application.			
	F:FIN Jobs	[0 to 9999999/ 0 / 1]		
8063	These SPs total finishing methods for fax jobs only. The finishing method is specified by the application. Note: Finishing features for fax jobs are not available at this time.			
	P:FIN Jobs	[0 to 9999999/ 0 / 1]		
8064	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.			
8065	S:FIN Jobs	[0 to 9999999/ 0 / 1]		
	These SPs total finishing methods for scan jobs only. The finishing method is specified by the application.			
	Note: Finishing features for scan jobs are not available at this time.			

	L:FIN Jobs		[0 to 9999999/ 0 / 1]		
8066	These SPs total finishing methods for jobs output from within the document server mode screen at the operation panel. The finishing method is specified from the prin window within document server mode.				
	O:FIN Jobs		[0 to 9999999/ 0 / 1]		
8067		These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.			
806x 1	Sort	Number of jobs started in Sort mode. When a stored copy job is set for Sort and then stored on the document server, the L: counter increments. (See SP8066 1)			
806x 2	Stack	Number of jobs started out of Sort mode.			
806x 3	Staple	Number of jobs started in Staple mode.			
806x 4	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode, the Staple counter also increments.			
806x 5	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).			
806x 6	Punch	Number of jobs started in Punch mode. When Punch is set for a print job, the P: counter increments. (See SP8064 6.)			
806x 7	Other	Reserved. Not used.			

8071	T:Jobs/PGS	[0 to 9999999/ 0 / 1]		
	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.			
8072	C:Jobs/PGS	[0 to 9999999/ 0 / 1]		
	These SPs count and calculate the number of copy jobs by size based on the number of pages in the job.			
8073	F:Jobs/PGS	[0 to 9999999/ 0 / 1]		
	These SPs count and calculate the number of fax jobs by size based on the number of pages in the job.			

	P:Jobs/PGS [0 to 9999999/ 0 / 1]			
8074	These SPs count and calculate the number of print jobs by size based on the numl of pages in the job.			
	S:Jobs/PGS		[0 to 9999999/ 0 / 1]	
8075	These SPs count and calculate the number of scan jobs by size based on the numb of pages in the job.			jobs by size based on the number
	L:Jobs/PGS		[0 to 9999	9999/0/1]
8076	These SPs count and calculate the number of jobs printed from within the docume server mode window at the operation panel, by the number of pages in the job.			'
	O:Jobs/PGS	[0 to 9999999/ 0 / 1]		
8077	These SPs count and calculate the number of "Other" application jobs (Web Imag Monitor, Palm 2, etc.) by size based on the number of pages in the job.			
807x 1	1 Page		807x 8	21 to 50 Pages
807x 2	2 Pages		807x 9	51 to 100 Pages
807x 3	3 Pages	807x 10		101 to 300 Pages
807x 4	4 Pages	807x 11		301 to 500 Pages
807x 5	5 Pages	807x 12		501 to 700 Pages
807x 6	6 to 10 Pages	807x 13		701 to 1000 Pages
807x 7	11 to 20 Pages		807x 14	More than 1001 Pages

- For example: When a copy job stored on the document server is printed in document server mode, the appropriate L: counter (SP8076 0xx) increments.
- Printing a fax report counts as a job and increments the F: counter (SP 8073).
- Interrupted jobs (paper jam, etc.) are counted, even though they do not finish.
- If a job is paused and re-started, it counts as one job.
- If the finisher runs out of staples during a print and staple job, then the job is counted at the time the error occurs.
- For copy jobs (SP 8072) and scan jobs (SP 8075), the total is calculated by multiplying the number of sets of copies by the number of pages scanned. (One duplex page counts as 2.)
- The first test print and subsequent test prints to adjust settings are added to the number of pages of the copy job (SP 8072).

• When printing the first page of a job from within the document server screen, the page is counted.

	T:FAX TX Jobs	[0 to 9999999/ 0 / 1]
8111	These SPs count the total number of jobs (color or black-and-white) sent either directly or using a file stored on the document server, on a telepho	
	F:FAX TX Jobs	[0 to 9999999/ 0 / 1]
8113	These SPs count the total number of jobs (color or black-and-white) sent by fax directly on a telephone line.	

- These counters count jobs, not pages.
- This SP counts fax jobs sent over a telephone line with a fax application, including documents stored
 on the document server.
- If the mode is changed during the job, the job will count with the mode set when the job started.
- If the same document is faxed to both a public fax line and an I-Fax at a destination where both are available, then this counter increments, and the I-Fax counter (812x) also increments.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

	T:IFAX TX Jobs	[0 to 9999999/ 0 / 1]
These SPs count the total number of jobs (color or black directly or using a file stored on the document server, or		
	F:IFAX TX Jobs	[0 to 9999999/ 0 / 1]
8123	These SPs count the number of jobs (color or black-and-white) sent (not stored on the document server), as fax images using I-Fax.	

- These counters count jobs, not pages.
- The counters for color are provided for future use; the color fax feature is not available at this time.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

	T:S-to-Email Jobs	[0 to 9999999/ 0 / 1]
8131	These SPs count the total number of jobs scanned and attached to an e-mai regardless of whether the document server was used or not.	
	S:S-to-Email Jobs	
8135	These SPs count the number of jobs scanned and attached to an e-mail, without storing the original on the document server.	

813x 1	B/W	Monochrome	
813x 2	Color	Color	
813x 3	ACS	Automatic Color Selection	

- These counters count jobs, not pages.
- If the job is stored on the document server, after the job is stored it is determined to be color or blackand-white then counted.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- If several jobs are combined for sending to the Scan Router, Scan-to-Email, or Scan-to-PC, or if one
 job is sent to more than one destination. each send is counted separately. For example, if the same
 document is sent by Scan-to-Email as well as Scan-to-PC, then it is counted twice (once for Scan-to-Email and once for Scan-to-PC).

0141		T:Deliv Jobs/Svr [0 to 9999999/ 0 / 1]			
These SPs cou		int the total number of jo	nt the total number of jobs scanned and sent to a Scan Router server.		
		S:Deliv Jobs/	S:Deliv Jobs/Svr		
8145		These SPs count the number of jobs scanned in scanner mode and sent to a Sc Router server.		anned in scanner mode and sent to a Scan	
	814x 1	B/W Monochrome			
	814x 2	Color Color			
	814x 3	ACS Automatic Color Selection		tion	

- The jobs are counted even though the arrival and reception of the jobs at the Scan Router server cannot be confirmed.
- If even one color image is mixed with black-and-white images, then the job is counted as a "Color" job.
- If the job is cancelled during scanning, or if the job is cancelled while the document is waiting to be delivered, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

		T:Deliv Jobs/PC [0 to 9999999/ 0 / 1]			
8151		These SPs count the total number of jobs scanned and sent to a folder on a PC (S to-PC).			
8155		S:Deliv Jobs/	S:Deliv Jobs/PC		
6133		These SPs count the total number of jobs scanned and sent with Scan-to-P		bs scanned and sent with Scan-to-PC.	
	815x 1	B/W Monochrome			
	815x 2	Color	Color Color		
	815x 3	ACS Automatic Color Selection			

- These counters count jobs, not pages.
- If the job is cancelled during scanning, it is not counted.
- If the job is cancelled while it is waiting to be sent, the job is not counted.
- If the job is cancelled during sending, it may or may not be counted, depending on what stage of the process had been reached when the job was cancelled.
- Even if several files are combined for sending, the transmission counts as one job.

8161	T:PCFAX TX Jobs	These SPs count the number of PC Fax transmission jobs.
8163	F:PCFAX TX Jobs	A job is counted from when it is registered for sending, not when it is sent.
0100	1.1 C17 (X 1X 1003	[0 to 9999999/ 0 / 1]

• This counts fax jobs started from a PC using a PC fax application, and sending the data out to the destination from the PC through the copier.

8191	T:Total Scan PGS	
8192	C:Total Scan PGS	These SPs count the pages scanned by each application
8193	F:Total Scan PGS	that uses the scanner to scan images.
8195	S:Total Scan PGS	[0 to 9999999/ 0 / 1]
8196	L:Total Scan PGS	

- SP 8191 to 8196 count the number of scanned sides of pages, not the number of physical pages.
- These counters do not count reading user stamp data, or reading color charts to adjust color.
- Previews done with a scanner driver are not counted.

- A count is done only after all images of a job have been scanned.
- Scans made in SP mode are not counted.

Examples:

- If 3 B5 pages and 1 A3 page are scanned with the scanner application but not stored, the S: count is 4.
- If both sides of 3 A4 sheets are copied and stored to the document server using the Store File button in the Copy mode window, the C: count is 6 and the L: count is 6.
- If both sides of 3 A4 sheets are copied but not stored, the C: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

	T:LSize Scan PGS	[0 to 9999999/ 0 / 1]	
8201	These SPs count the total number of large pages input with the scanner for sca and copy jobs. Note: These counters are displayed in the SMC Report, and in the User Tools dis		
8203	F:LSize Scan PGS [0 to 9999999/ 0 / 1]		
	These SPs count the total number of large pages input with the fax jobs. Large size paper (A3/DLT) scanned for scan jobs are not counted. Note: These counters are displayed in the SMC Report, and in the User Tools display.		
	S:LSize Scan PGS	[0 to 9999999/ 0 / 1]	
8205	only. Large size paper (A3/DLT) scanned for fax transmission are not cou		
8205	These SPs count the total number of large pages input with the scanner for scan jonly. Large size paper (A3/DLT) scanned for fax transmission are not counted. Note: These counters are displayed in the SMC Report, and in the User Tools disp		

8211	T:Scan PGS/LS	These SPs count the number of pages scanned into the
8212	C:Scan PGS/LS	document server . [0 to 9999999
8213	F:Scan PGS/LS	The L: counter counts the number of pages stored from
8215	S:Scan PGS/LS	within the document server mode screen at the operation panel, and with the Store File button from within the Copy
8216	L:Scan PGS/LS	mode screen

- Reading user stamp data is not counted.
- If a job is cancelled, the pages output as far as the cancellation are counted.
- If the scanner application scans and stores 3 B5 sheets and 1 A4 sheet, the S: count is 4.
- If pages are copied but not stored on the document server, these counters do not change.

- If both sides of 3 A4 sheets are copied and stored to the document server, the C: count is 6 and the L: count is 6.
- If you enter document server mode then scan 6 pages, the L: count is 6.

	ADF Org	Feeds	[0 to 9999999/ 0 / 1]
8221	These SPs count the number of pages fed through the ADF for front as scanning.		
8221 1	Front	Number of front sides fed for scanning: With an ADF that can scan both sides simultaneously, the Front side count is the same as the number of pages fed for either simplex or duplex scanning. With an ADF that cannot scan both sides simultaneously, the Front side count is the same as the number of pages fed for duplex front side scanning. (The front side is determined by which side the user loads face up.)	
8221 2	Back	Number of rear sides fed for scanning: With an ADF that can scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex scanning. With an ADF that cannot scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex rear-side scanning.	

- When 1 sheet is fed for duplex scanning the Front count is 1 and the Back count is 1.
- If a jam occurs during the job, recovery processing is not counted to avoid double counting. Also, the pages are not counted if the jam occurs before the first sheet is output.

	Scan PGS/Mode		[0 to 9999999/ 0 / 1]
8231	These SPs count the number of pages scanned by each ADF mode to determine the work load on the ADF.		scanned by each ADF mode to determine the
1	Large Volume Selectable. Large copy jobs that cannot be loaded in ADF at one time.		
2	SADF Selectable. F		eding pages one by one through the ADF.
3	Mixed Size Selectable.		elect "Mixed Sizes" on the operation panel.
4	Custom Size	ze Selectable. Originals of non-standard size.	
5	Platen	Book mode. R directly on the	aising the ADF and placing the original platen.

- If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.
- The user cannot select mixed sizes or non-standard sizes with the fax application so if the original's page sizes are mixed or non-standard, these are not counted.
- If the user selects "Mixed Sizes" for copying in the platen mode, the Mixed Size count is enabled.
- In the SADF mode if the user copies 1 page in platen mode and then copies 2 pages with SADF, the Platen count is 1 and the SADF count is 3.

	ı						
	T:Scan PGS/Org				[0 to 9999999/ 0 / 1]		
8241	These SPs count the total number of scanned pages by original type for all jobs, regardless of which application was used.			pe for all jobs,			
00.40	C:Scan PGS	/Org		[[0 to 9999999/ 0 / 1]		
8242	These SPs co	ount the numb	er of pages	scan	ned by o	riginal type fo	or Copy jobs.
8243	F:Scan PGS	/Org			[0 to 99	99999/0/	1]
8243	These SPs co	ount the numb	er of pages	scan	ned by c	riginal type fo	or Fax jobs.
00.45	S:Scan PGS	/Org		[[0 to 9999999/ 0 / 1]		
8245	These SPs co	ount the numb	ant the number of pages scanned by original type for Scan jobs.				
	L:Scan PGS/Org			[[0 to 9999999/ 0 / 1]		
8246	These SPs count the number of pages scanned and stored server mode screen at the operation panel, and with the Stothe Copy mode screen						
		8241	8242	824	43	8245	8246
824x 1: Text		Yes	Yes	Yes		Yes	Yes
824x 2: Text/Photo		Yes	Yes	Yes		Yes	Yes
824x 3: Photo		Yes	Yes	Yes		Yes	Yes
824x 4: GenCopy, Pale		Yes	Yes	No		Yes	Yes
824x 5: Map		Yes	Yes	No		Yes	Yes
824x 11: Other		Yes	Yes	Yes		Yes	Yes

• If the scan mode is changed during the job, for example, if the user switches from ADF to Platen mode, the count is done for the last selected mode.

8251	T:Scan PGS/ImgEdt	These SPs show how many times Image Edit features have been selected at the operation panel for each application. Some examples of these editing features	
8252	C:Scan PGS/ImgEdt		
8255	S:Scan PGS/ImgEdt	are:	
8256	L:Scan PGS/ImgEdt	Erase> Border	
8230	L.Scan r G3/ inigLai	Erase> Center	
	O:Scan PGS/ImgEdt	Image Repeat	
		CenteringPositive/Negative[0 to 9999999/ 0 / 1]	
8257			
		Note: The count totals the number of times the edit features have been used. A detailed breakdown of exactly which features have been used is not given.	

• The L: counter counts the number of pages stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen.

These SPs count the number of pages scanned using a

T:Scan PGS/TWAIN

size [SP 8-441].

8281

8301

8285	S:Scan PGS/TWAIN	driver is us	iver. These counters reveal how the TWAIN ed for delivery functions.
8291	T:Scan PGS/Stamp		count the number of pages stamped with the
8293	F:Scan PGS/Stamp	stamp in the ADF unit. [0 to 9999999 0 / 1]	
8295	S:Scan PGS/Stamp	The L: cour	nter counts the number of pages stored from document server mode screen at the operation with the Store File button from within the Copy
	T:Scan PGS/Size		[0 to 9999999/ 0 / 1]

These SPs count by size the total number of pages scanned by all applications. Use

these totals to compare original page size (scanning) and output (printing) page

	C:Scan PGS/Size		[0 to 9999999/ 0 / 1]
8302	These SPs count by size the total number of pages scanned by the Copy application. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-442].		
	F:Scan PGS/Size		[0 to 9999999/ 0 / 1]
8303	'		per of pages scanned by the Fax application. age size (scanning) and output page size [SP
	S:Scan PGS/Size		[0 to 9999999/ 0 / 1]
8305	1		er of pages scanned by the Scan application. age size (scanning) and output page size [SP
	L:Scan PGS/Size		[0 to 9999999/ 0 / 1]
8306	These SPs count by size the total number of pages scanned and stored from within the document server mode screen at the operation panel, and with the Store File button from within the Copy mode screen. Use these totals to compare original page size (scanning) and output page size [SP 8-446].		
830x 1	A3		
830x 2	A4		
830x 3	A5		
830x 4	B4		
830x 5	B5		
830x 6	DLT		
830x 7	LG		
830x 8	LT		
830x 9	HLT		
830x 10	Full Bleed		
830x 254	Other (Standard)		
830x 255	Other (Custom)		

	T:Scan PGS/Rez		[0 to 9999999/ 0 / 1]	
8311	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.			
	S:Scan PGS/Rez		[0 to 9999999/ 0 / 1]	
8315	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.			
	Note: At the present time, 8311 and 8315 perform identical counts.			
831x 1	1200dpi to			
831x 2	600dpi to 1199dpi			
831x3	400dpi to 599dpi	pi to 599dpi		
831x4	200dpi to 399dpi			
831x 5	to 199dpi			

- Copy resolution settings are fixed so they are not counted.
- The Fax application does not allow finely-adjusted resolution settings so no count is done for the Fax application.

8381	T:Total PrtPGS	
8382	C:Total PrtPGS	These SPs count the number of pages printed by the customer. The counter for the application used for storing
8383	F:Total PrtPGS	the pages increments.
8384	P:Total PrtPGS	[0 to 9999999/ 0 / 1]
8385	S:Total PrtPGS	The L: counter counts the number of pages stored from within the document server mode screen at the operation
8386	L:Total PrtPGS	panel. Pages stored with the Store File button from within the Copy mode screen go to the C: counter.
8387	O:Total PrtPGS	

- When the A3/DLT double count function is switched on with SP5104, 1 A3/DLT page is counted as 2.
- When several documents are merged for a print job, the number of pages stored are counted for the application that stored them.
- These counters are used primarily to calculate charges on use of the machine, so the following pages are not counted as printed pages:

- Blank pages in a duplex printing job.
- Blank pages inserted as document covers, chapter title sheets, and slip sheets.
- Reports printed to confirm counts.
- All reports done in the service mode (service summaries, engine maintenance reports, etc.)
- Test prints for machine image adjustment.
- Error notification reports.
- Partially printed pages as the result of a copier jam.

	LSize PrtPGS [0 to 9999999/ 0 / 1]		
8391	These SPs count pages printed on paper sizes A3/DLT and larger.		
	Note : In addition to being displayed in the SMC report as well as on the mac	n the SMC Report, These counters appear in hine display.	

8401	T:PrtPGS/LS	The CD could be found in the
8402	C:PrtPGS/LS	These SPs count the number of pages printed from the document server. The counter for the application used to
8403	F:PrtPGS/LS	print the pages is incremented. The L: counter counts the number of jobs stored from
8404	P:PrtPGS/LS	within the document server mode screen at the operation
8405	S:PrtPGS/LS	panel. [0 to 9999999/ 0 / 1]
8406	L:PrtPGS/LS	[0107777777 07 1]

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the L: count.
- Fax jobs done with Web Image Monitor and Desk Top Binder are added to the F: count.

8411	Prints/Duplex
	This SP counts the amount of paper (front/back counted as 1 page) used for duplex printing. Last pages printed only on one side are not counted. [0 to 9999999/0/1]

	T:PrtPGS/Dup Comb	[0 to 9999999/ 0 / 1]
8421	These SPs count by binding and comb processed for printing. This is the total	oine, and n-Up settings the number of pages for all applications.

		C:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8422			nding and combine, and n-Up settings the number of pages by the copier application.		
		F:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8423		These SPs count by bin processed for printing	-	oine, and n-Up settings the number of pages lication.	
		P:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8424		These SPs count by bin processed for printing	-	oine, and n-Up settings the number of pages application.	
		S:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8425		These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the scanner application.			
		L:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8426	'		-	oine, and n-Up settings the number of pages document server mode window at the	
		O:PrtPGS/Dup Comb		[0 to 9999999/ 0 / 1]	
8427		These SPs count by bin processed for printing	-	oine, and n-Up settings the number of pages cations	
	842x 1	Simplex> Duplex			
	842x 2	Duplex> Duplex			
	842x 3	Book> Duplex			
	842x 4	Simplex Combine			
	842x 5	Duplex Combine			
	842x 6	2>	2 pages on 1	side (2-Up)	
	842x 7	4>	4 pages on 1	side (4-Up)	
	842x 8	6>	6 pages on 1	side (6-Up)	
	842x 9	8>	8 pages on 1	side (8-Up)	

842x 10	9>	9 pages on 1 side (9-Up)
842x 11	16>	16 pages on 1 side (16-Up)
842x 12	Booklet	
842x 13	Magazine	

- These counts (SP8421 to SP8427) are especially useful for customers who need to improve their compliance with ISO standards for the reduction of paper consumption.
- Pages that are only partially printed with the n-Up functions are counted as 1 page.

Here is a summary of how the counters work for Booklet and Magazine modes:

Вос	klet	Magazine	
Original Pages	Count	Original Pages	Count
1	1	1	1
2	2	2	2
3	2	3	2
4	2	4	2
5	3	5	4
6	4	6	4
7	4	7	4
8	4	8	4

	T:PrtPGS/ImgEdt	[0 to 9999999/ 0 / 1]
8431	These SPs count the total number of pages output with the three features k regardless of which application was used.	
	C:PrtPGS/ImgEdt	[0 to 9999999/ 0 / 1]
8432	These SPs count the total number of pages output with the three features below we the copy application.	

4

	P:PrtPGS/ImgEdt		[0 to 9999999/ 0 / 1]
8434	These SPs count the total number of pages output with the three features below with the print application.		
	L:PrtPGS/ImgEdt		[0 to 9999999/ 0 / 1]
8436	These SPs count the total number of pages output from within the document server mode window at the operation panel with the three features below.		
	O:PrtPGS/ImgEdt		[0 to 9999999/ 0 / 1]
8437	These SPs count the total number of pages output with the three features below with Other applications.		
843x 1	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count facover printed on both sides counts 2.	
843x 2	Series/Book	The number of pages printed in series (one side) or pri as a book with booklet right/left pagination.	
843x 3	User Stamp	The number of pages printed where stamps were applied including page numbering and date stamping.	

	T:PrtPGS/Ppr Size	[0 to 9999999/ 0 / 1]	
These SPs count by print paper size the number of pages pr		number of pages printed by all applications.	
	C:PrtPGS/Ppr Size	[0 to 9999999/ 0 / 1]	
8442	These SPs count by print paper size the number of pages printed by the copy application.		
F:PrtPGS/Ppr Size		[0 to 9999999/ 0 / 1]	
8443	These SPs count by print paper size the number of pages printed by the fax application.		
	P:PrtPGS/Ppr Size [0 to 9999999/ 0 / 1]		
8444	These SPs count by print paper size the number of pages printed by the printer application.		
	S:PrtPGS/Ppr Size	[0 to 9999999/ 0 / 1]	
8445	These SPs count by print paper size the number of pages printed by the scanner application.		

	L:PrtPGS/Ppr Size		[0 to 9999999/ 0 / 1]	
8446				
0440	These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel.			
	O:PrtPGS/Ppr Size		[0 to 9999999/ 0 / 1]	
8447	These SPs count by pri applications.	These SPs count by print paper size the number of pages printed by Other applications.		
844x 1	A3			
844x 2	A4			
844x 3	A5			
844x 4	B4			
844x 5	B5			
844x 6	DLT			
844x 7	LG			
844x 8	LT			
844x 9	HLT			
844x 10	Full Bleed			
844x 254	Other (Standard)			
844x 255	Other (Custom)			

• These counters do not distinguish between LEF and SEF.

0.451	PrtPGS/Ppr Tray		[0 to 9999999/ 0 / 1]	
These SPs count the number of sheets fed from each po		fed from each paper feed station.		
1	Bypass	Bypass Tray		
2	Tray 1	Copier		
3	Tray 2	Copier		
4	Tray 3	Paper Tray Unit (Option)		
5	Tray 4	Paper Tray Unit (Option)		

6	Tray 5	LCT (Option)	
7	Tray 6	500-Sheet Finisher	
8	Tray 7	Currently not used.	
9	Tray 8	Currently not used.	
10	Tray 9	Currently not used.	
11	Tray 10	Currently not used.	
12	Tray 11	Currently not used.	

	T:PrtPGS/Ppr Type	[0 to 9999999/ 0 / 1]		
	These SPs count by paper type the number pages printed by all applications.			
8461	 These counters are not the same as the PM counter. The PM counter is ba on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing. 			
	Blank sheets (covers, chapter co	vers, slip sheets) are also counted.		
	During duplex printing, pages printed on one side counts as 1.	rinted on both sides count as 1, and a page		
0.470	C:PrtPGS/Ppr Type	[0 to 9999999/ 0 / 1]		
8462	These SPs count by paper type the nu	mber pages printed by the copy application.		
8463	F:PrtPGS/Ppr Type	[0 to 9999999/ 0 / 1]		
6403	These SPs count by paper type the number pages printed by the fax application			
8464	P:PrtPGS/Ppr Type [0 to 9999999/ 0 / 1]			
0404	These SPs count by paper type the number pages printed by the printer application			
	L:PrtPGS/Ppr Type	[0 to 9999999/ 0 / 1]		
8466	These SPs count by paper type the number pages printed from within the document server mode window at the operation panel.			
846x 1	Normal			
846x 2	Recycled			
846x 3	Special			

846x 4	Thick
846x 5	Normal (Back)
846x 6	Thick (Back)
846x 7	OHP
846x 8	Other

8471	PrtPGS/Mag	[0 to 9999999/ 0 / 1]	
04/1	These SPs count by magnification rate the number of pages printed.		
1	to 49%		
2	50% to 99%		
3	100%		
4	101% to 200%		
5	201% to		

- Counts are done for magnification adjusted for pages, not only on the operation panel but performed remotely with an external network application capable of performing magnification adjustment as well.
- Magnification adjustments done with printer drivers with PC applications such as Excel are also counted.
- Magnification adjustments done for adjustments after they have been stored on the document server are not counted.
- Magnification adjustments performed automatically during Auto Reduce/Enlarge copying are counted.
- The magnification rates of blank cover sheets, slip sheets, etc. are automatically assigned a rate of 100%.

8481 T:PrtPGS/TonSave

8484	P:PrtPGS/TonSave
	These SPs count the number of pages printed with the Toner Save feature switched on.
	Note: These SPs return the same results because this SP is limited to the Print application.
	[0 to 9999999/ 0 / 1]

8511	T:PrtPGS/Emul		[0 to 9999999/ 0 / 1]
0311	These SPs count by printer emulation mode the total number of pag		mode the total number of pages printed.
8514	P:PrtPGS/Emul		[0 to 9999999/ 0 / 1]
0314	These SPs coun	t by printer emulation i	mode the total number of pages printed.
85141	RPCS		
85142	RPDL		
85143	PS3		
85144	R98		
85145	R16		
85146	GL/GL2		
85147	R55		
85148	RTIFF		
85149	PDF		
8514 10	PCL5e/5c		
851411	PCL XL		
8514 12	IPDL-C		
8514 13	BM-Links	Japan Only	
8514 14	Other		

- SP8511 and SP8514 return the same results because they are both limited to the Print application.
- Print jobs output to the document server are not counted.

	T:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8521	These SPs count by finishing mode the total number of pages printed by all applications.		
	C:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8522	These SPs count by finishing mode the application.	total number of pages printed by the Copy	
	F:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8523	These SPs count by finishing mode the application.	total number of pages printed by the Fax	
	P:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8524	These SPs count by finishing mode the total number of pages printed by the Print application.		
	S:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8525	These SPs count by finishing mode the total number of pages printed by the Scanner application.		
	L:PrtPGS/FIN	[0 to 9999999/ 0 / 1]	
8526	These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel. Note: • If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.		
	The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.		
852x 1	Sort		
852x 2	Stack		
852x 3	Staple		
852x 4	Booklet		
852x 5	Z-Fold		
852x 6	Punch		

	1			
852x 7	Other			
		This CD		
8531	Staples		unts the amount of staples used by the machine. 9999/0/1]	
		[0 10 777	77777 07 1]	
	T:Counter		[0 to 9999999/ 0 / 1]	
8581	application used. In	addition to being	en down by color output, regardless of the displayed in the SMC Report, these counters display on the copy machine.	
	O:Counter		[0 to 9999999/ 0 / 1]	
8591	These SPs count the totals for A3/DLT paper use, number of duplex pages printed, and the number of staples used. These totals are for Other (O:) applications only.			
1	A3/DLT			
2	Duplex			
8601	Coverage Counter			
1	B/W			
2	B/W Printing Pages			
	T:FAX TX PGS		[0 to 9999999/ 0 / 1]	
8631	These SPs count by color mode the number of pages sent by fax to a telephon number.		, , ,	
	F:FAX TX PGS		[0 to 9999999/ 0 / 1]	
8633	These SPs count by color mode the number of pages sent by fax to a telephone			

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8631 and SP8633 are the same.
- The counts include error pages.

number.

- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

	T:FAX TX PGS	[0 to 9999999/ 0 / 1]	
8641	These SPs count by color mode the number of pages sent by fax to as fax images using I-Fax.		
8643	F:FAX TX PGS	[0 to 9999999/ 0 / 1]	
	These SPs count by color mode the number of pages sent by Fax as fax images using I-Fax.		

- If a document has color and black-and-white pages mixed, the pages are counted separately as B/W or Color.
- At the present time, this feature is provided for the Fax application only so SP8641 and SP8643 are the same.
- The counts include error pages.
- If a document is sent to more than one destination with a Group transmission, the count is done for each destination.
- Polling transmissions are counted but polling RX are not.
- Relay, memory, and confidential mailbox transmissions and are counted for each destination.

	T:S-to-Email PGS		[0 to 9999999/ 0 / 1]	
8651	These SPs count by color mode the total number of pages attached to an e-mail for both the Scan and document server applications.			
	S:S-to-Emo	ail PGS	[0 to 9999999/ 0 / 1]	
8655	These SPs count by color mode the total number of pages attached to an e-mail for the Scan application only.			
1	B/W			
2	Color			

Note

• The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.

- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).
- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20.

	T:Deliv PGS/Svr		[0 to 9999999/ 0 / 1]	
8661	These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications.			
	S:Deliv PGS/Svr		[0 to 9999999/ 0 / 1]	
8665	These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application.			
1	B/W			
2	Color			

Note

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the counts are not done.
- The count is executed even if regardless of confirmation of the arrival at the Scan Router server.

8671	T:Deliv PG	S/PC	[0 to 9999999/ 0 / 1]	
	These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications.			
	S:Deliv PG	S/PC	[0 to 9999999/ 0 / 1]	
8675		These SPs count by color mode the total number of pages sent with Scan-to-PC the Scan application.		
1	B/W			
2	Color			

8681	T:PCFAX TXPGS	These SPs count the number of pages sent by PC Fax.
8683	F:PCFAX TXPGS	These SPs are provided for the Fax application only, so the counts for SP8681 and SP8683 are the same. [O to 9999999/ O / 1]

- This counts pages sent from a PC using a PC fax application, from the PC through the copier to the destination.
- When sending the same message to more than one place using broadcasting, the pages are only
 counted once. (For example, a 10-page fax is sent to location A and location B. The counter goes
 up by 10, not 20.)

8691	T:TX PGS/LS	These SPs count the number of pages sent from the document
8692	C:TX PGS/LS	server. The counter for the application that was used to store the pages is incremented.
8693	F:TX PGS/LS	[0 to 9999999/ 0 / 1]
8694	P:TX PGS/LS	The L: counter counts the number of pages stored from within
8695	S:TX PGS/LS	the document server mode screen at the operation panel. Pages stored with the Store File button from within the Copy
8696	L:TX PGS/LS	mode screen go to the C: counter.

Note

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the count.
- If several documents are merged for sending, the number of pages stored are counted for the
 application that stored them.
- When several documents are sent by a Fax broadcast, the F: count is done for the number of pages sent to each destination.

	TX PGS/Port		[0 to 9999999/ 0 / 1]
8701	These SPs count the number of pages sent by the physical port used to send them. For example, if a 3-page original is sent to 4 destinations via ISDN G4, the count for ISDN (G3, G4) is 12.		
8701 1	PSTN-1		
8701 2	PSTN-2		
8701 3	PSTN-3		
8701 4	ISDN (G3,G4)		

8701 5	Network	

	T:Scan PGS/Comp		[0 to 9999999/1]
These SPs count the number of comprescounted by the formats listed below.		•	ed pages scanned into the document server,
87111	JPEG/JPEG2000		
87112	TIFF (Multi/Single)		
87113	PDF		
8711 4	Other		
87115	High Compression PDF		

	S:Scan PGS/Comp		[0 to 9999999/ 1]
8 715	These SPs count the number of compressed pages scanned by the scan ap counted by the formats listed below.		ed pages scanned by the scan application,
8715 1	JPEG/JPEG2000		
8715 2	TIFF (Multi/Single)		
8715 3	PDF		
8715 4	Other		
8711 5	High Compression PDF		

	RX PGS/Port		[0 to 9999999/ 0 / 1]
8741	These SPs count the number of pages received by the physical potential.		received by the physical port used to receive
8741 1	PSTN-1		
8741 2	PSTN-2		
8741 3	PSTN-3		
8741 4	ISDN (G3,G4)		
8741 5	Network		

8771	Dev Counter	[0 to 9999999/ 0 / 1]		
		These SPs count the frequency of use (number of rotations of the development rollers) for black and other color toners.		
8781	Toner_Bottl_Info.	Toner_Bottl_Info. SP8781 RTB 53: Corrected		
	' '	This SP displays the number of toner bottles used. The count is done based on the equivalent of 1,000 pages per bottle.		
		,		
8791	LS Memory Remain	This SP displays the percent of space available on the document server for storing documents.		
		[0 to 100/0/1]		

	Toner Remain	[0 to 100/0/1]		
	. , .	This SP displays the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time.		
	Note	Note		
8801	 This precise method of measuring remaining toner supply (1% steps) is better than other machines in the market that can only measure in increments of 10 (10% steps). 			
	This SP is expanded for color the count is done for black on	MFP and color LP machines. For this machine, y.		

8851	Cover Cnt: 0-10%		[0 to 9999999]
6631	These SPs count the number of pages for each coverage range.		
11	0 to 2%:BK		
21	3 to 4%:BK		
31	5 to 7%:BK		
41 8 to 10%:BK			

8861	Cover Cnt: 11-20%		[0 to 9999999]
0001	These SPs count the percentage of dot coverage for black othe		verage for black other color toners.
1	K	Black toner	

8871	Cover Cnt: 21-30% [0 to 9999999] These SPs count the percentage of dot coverage for black other color toners.		[0 to 9999999]
0071			verage for black other color toners.
1	K	lack toner	

8881	Cover Cnt: 31 -% [0 to 9999999]		[0 to 9999999]
0001	These	SPs count the percentage of dot co	verage for black other color toners.
1	K	Black toner	

8891	Page/Toner Bottle DFU
8901	Page/Toner_Prev1 DFU
8911	Page/Toner_Prev2 DFU

8921	Cvr Cnt/Total	
1	Coverage (%) BK	
11	Cover/Page (%): BK	

	Machine Status	[0 to 9999999/ 0 / 1]			
8941		f time the machine spends in each operation mode. These SPs need to investigate machine operation for improvement in their ds.			
1	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).			
2	Standby Time	Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.			
3	Energy Save Time	Includes time while the machine is performing background printing.			
4	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.			

5	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.
6	SC	Total down time due to SC errors.
7	PrtJam	Total down time due to paper jams during printing.
8	OrgJam	Total down time due to original jams during scanning.
9	Supply PM Wait End	Total down time due to toner end.

8951	AddBook Register		
0751	These SPs count the	e number of events when the machine	e manages data registration.
1	User Code	User code registrations.	
2	Mail Address	Mail address registrations.	
3	Fax Destination	Fax destination registrations.	
4	Group	Group destination registrations.	[0 to 9999999/ 0 / 1]
5	Transfer Request	Fax relay destination registrations for relay TX.	
6	F-Code	F-Code box registrations.	
7	Copy Program	Copy application registrations with the Program (job settings) feature.	
8	Fax Program	Fax application registrations with the Program (job settings) feature.	
9	Printer Program	Printer application registrations with the Program (job settings) feature.	[0 to 255 / 0 / 255]
10	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

8999	Admin. Counter List	[0 to 9999999/ 0 / 1]
0999	Displays the total coverage and total print	out number for each color.

1	Total
3	Copy: BW
7	Printer BW
10	Fax Print: BW
12	A3/DLT
13	Duplex
15	Coverage: BW (%)
17	Coverage: BW Print Page (%)
101	Transmission Total: Color
102	Transmission Total: BW
103	FAX Transmission
104	Scanner Transmission: Color
105	Scanner Transmission: BW

Printer SP Tables

1001	Bit Swit	Bit Switch			
001	Bit Switch 1		0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	
	bit 3	No I/O Timeout 0: D		1: Enable	
		Enable: The MFP I/O Timeout setting will have no effe	ect. I/O Timeou	ts will never occur.	
	bit 4	SD Card Save Mode 0: Disable 1: Enable		1: Enable	
		Enable: Print jobs will be saved to an SD Card in the GW SD slot.			
	bit 5	DFU	-	-	
	bit 6	DFU	-	-	
	bit 7	DFU	-	-	

1001 Bit Switch

1

002	Bit Swit	tch 2	0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	Applying a collation Type	Shift Collate	Normal Collate	
		A collation type (shift or normal) will be applied to all jobs that do not already have a "Collate Type" configured.			
		●Note			
		If #5-0 is enabled, this Bit Switch has no effect.			
	bit 3	[PCL5e/c,PS]: PDL Auto Switching 0: Enable 1: Disable			
		Disable: The MFPs ability to change the PDL processor mid-job.			
		Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.			
	bit 4	DFU			
	bit 5	DFU	-	-	
	bit 6	DFU	-	-	
	bit 7	DFU	-	-	

1001

003	Bit Switch 3		0	1		
	bit 0	DFU	-	-		
	bit 1	DFU	-	-		
	bit 2	[PCL5e/c]: Legacy HP compatibility	0: Disable	1: Enable		
		Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually " <esc>*r0A") will be changed to "<esc>*r1A"</esc></esc>				
	bit 3	DFU	-	-		
	bit 4	DFU	-	-		
	bit 5	DFU	-	-		
	bit 6	DFU	-	-		
	bit 7	DFU	-	-		

1001	Bit Switch				
004	Bit Switch 4		0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	
	bit 3	IPDS print-side reversal	0: Disable	1: Enable	
		inted on the fro uce printing spe	nt side because of eed.		
	bit 4	DFU	-	-	
	bit 5	DFU	-	-	
	bit 6	DFU	-	-	
	bit 7	DFU	-	-	

1001	Bit Switch		
005	Bit Switch 5	0	1

	Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.	0: Disable	1: Enable		
bit 0	If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Type from the operation panel. The available types will depend on the device and configured options.				
	After enabling the function, the settings will appear u	ınder:			
	"User Tools > Printer Features > System"				
bit 1	DFU	-	-		
bit 2	Prevent SDK applications from altering the contents of a job.	0: Disable	1: Enable		
	If this BitSw is enabled, SDK applications will not be able to alter print data. This is achieved by preventing SDK applications from accessing a module called the "GPS Filter".				
	Note: The main purpose of this BitSw is for troubleshooting the effects of SDK applications on data.				
bit 3	[PS] PS Criteria	0: Pattern3	1: Pattern 1		
	Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not.				
	Pattern3: includes most PS commands.				
	Pattern 1: A small number of PS tags and headers				
bit 4	Increase max number of the stored jobs to 1000 jobs.	0: Disable (100)	1: Enable (1000)		
	Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type settings to 1000. The default is 100.				
bit 5	DFU	-	-		
bit 6	DFU	-	-		
bit 7	DFU	-	-		

1001	Bit Swit	ch		
006	Bit Swit	ch 6	0	1
	bit 0 to 5	DFU	-	-

	bit 6	PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).	0: Disable (Immediately)	1: Enable (10 seconds)
		To be used if PDL auto-detection fails. A failure of PD mean that the job can't be printed. This bit switch to immediately (default) upon failure or to wait 10 se	ells the device whet	,
	bit 7	DFU	-	-

Bit 7 RTB 51

1001	Bit Switch		
007	Bit Switch 7 DFU	-	-

1001	Bit Swit	Bit Switch			
008	Bit Switch 8		0	1	
	bit 0 to 5	DFU	-	-	
	bit 6	[PS]: Orientation Auto Detect Function	0: Enable	1: Disable	
		Automatically chooses page orientations of PostScript jobs (Landscape or Portrait) based on the content.			
	bit 7	[PDF]: Orientation Auto Detect Function	0: Enable	1: Disable	
		Automatically chooses page orientations of PDF jobs (Landscape or Portrait) based on the content.			

1003	Clear setting
001	Initialize Printer System Initializes the settings in the printer feature settings of UP mode.
003	Delete Program DFU

1004	Print Summary	
	Touch [Execute] to print the printer summary sheets.	

1005

	Printer Application Version	
	Displays the version of the controller firmware.	
	Sample/Locked Print	
	This SP disables/enables use of the document server.	
1006	[0 or 1/0/1]	
	0: Enabled. Document server can be used.	
	1: Disabled. Document server cannot be used.	

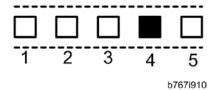
Scanner Service Tables

SP	Number/Name	Function/[Setting]
1001	Scan NV Version	Displays the version of the scanner NV.
1004	Compression Type	Selects the compression type for binary picture processing. [1 to 3 / 1 / 1/step] 1: MH, 2: MR, 3: MMR
1005	Erase Margin	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. [0 to 5 / 0 / 1 mm/step]
1009	Remote scan disable	Enables or disables the TWAIN function. [0 or 1 / 0 / -] 0: Enable, 1: Disable
1010	Non Display Clear Light PDF	Displays or does not display the clear light PDF function. [0 or 1 / 0 / -] 0: Display, 1: Not display
1011	Org Count Disp	Displays or does not display the original counter. [0 or 1 / 0 / -] 0: Not display, 1: Display
1012	User Info Release	Clears or does not clear a user information after a job. [0 or 1 / 1 / -] 0: Not clear, 1: Clear

	Compression level (grayscale)
2021	These SP codes set the compression ratio for the grayscale processing mode that can be selected with the notch settings on the operation panel. Range: 5 (lowest ratio) to 95 (highest ratio)

2021 1	Level 5 (Lowest I-Qual)	[5 to 95 / 20 / 1/step]
2021 2	Level 4 (Low I-Qual)	[5 to 95 / 40 / 1/step]
2021 3	Level 3 (Middle I-Qual)	[5 to 95 / 65 / 1/step]
2021 4	Level 2 (High I-Qual)	[5 to 95 / 80 / 1/step]
2021 5	Level 1 (Highest I-Qual)	[5 to 95 / 95 / 1/step]

Compression Notch Assignment



	[Compression ratio of ClearLight PDF]		
2024*	Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.		
1	Compression Ratio (Normal image)	[5 to 95 / 25 / 1 /step]	
2	Compression Ratio (High comp image)	[5 to 95 / 20 / 1 /step]	