## Model PG-C2 Machine Code: D045

## **SERVICE MANUAL**

Jun, 2008 Subject to change

## **Important Safety Notices**

#### Prevention of Physical Injury

- 1. Make sure that the power cord is unplugged before you disassemble or assemble parts of the copier and peripherals.
- 2. The wall outlet should be near the machine and easily accessible.
- 3. 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.
- 4. If a job has started before the copier completes the warm-up or initializing period, keep hands away from the mechanical and electrical components.
- 5. The inside and the metal parts of the fusing unit become extremely hot while the machine operates. Do not touch these components with your bare hands.

#### **Health Safety Conditions**

Ink is non-toxic, but if you get it 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.

#### Safety and Ecological Notes for Disposal

- Dispose of ink cartridge and ink tank in accordance with local regulations. (These are non-toxic supplies.)
- 2. Dispose of replaced parts in accordance with local regulations.

#### **Observance of Electrical Safety Standards**

- 1. The copier and its peripherals must be installed and maintained by a customer service representative who has completed the training course on those models.
- The Controller board on this machine contains a lithium battery. 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 batteries in accordance with the manufacturer's instructions and local regulations.

## **WARNING**

• Keep the machine away from flammable liquids, gases, and aerosols. A fire or an explosion might occur.

## Symbols, Abbreviations, and Trademarks

#### Symbols and Abbreviations

This manual uses the symbols and abbreviations shown below.

Symbol	Meaning
	Refer to section number
$\langle \overline{O} \rangle$	Clip ring
Ĩ	Screw
E	Connector
R.	Clamp
SEF	Short Edge Feed
LEF	Long Edge Feed

#### 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.

Ethernet® is a registered trademark of Xerox Corporation.

PowerPC® is a registered trademark of International Business Machines Corporation.

Other product names used herein are for identification purposes only and may be trademarks of their respective companies. We disclaim any and all rights involved with those marks.

# TABLE OF CONTENTS

Important Safety Notices	1
Prevention of Physical Injury	1
Health Safety Conditions	1
Safety and Ecological Notes for Disposal	1
Observance of Electrical Safety Standards	1
Symbols, Abbreviations, and Trademarks	2
Symbols and Abbreviations	2
Trademarks	2
1. Installation Procedure	
Installation Requirements	13
Environment	13
Machine Level	14
Minimum Space Requirements	14
Power Requirements	
Optional Unit Combinations	16
Machine Options	16
Controller Options	16
Fax Options	16
Other Options	17
Copier Installation	
Installation Flow Chart	
Power Sockets for Peripherals	19
Accessory Check	19
Before Installing a Copier	
Initial Setting	
Moving the Machine	
Transporting the Machine	
Platen Cover Installation	
Accessory Check	
Installation Procedure	
ARDF Installation	
Accessory Check	
Installation Procedure	

ADF Installation	39
Accessory Check	
Installation Procedure	
One-Tray Paper Tray Unit	43
Accessory Check	43
Installation Procedure	43
Optional Paper Tray Grip Handle – Optional Paper Tray Unit	51
Two-Tray Paper Tray unit Installation	53
Accessory Check	53
Installation Procedure	53
Optional Paper Tray Grip Handle – Optional Paper Tray Unit	63
Duplex Unit Installation	64
Accessrory Check	64
Installation Procedure	64
Heater Kit Installation	70
Component Check	70
Installation Procedure	71
Optional Tray Heater	80
Function Upgrade Option Installation	85
Component check	85
Installation Procedure	85
Copy Data Security Unit Installation	90
Accessory Check	90
Installation Procedure	
Optional Counter Interface Unit	93
Installation Procedure	93
Controller Options	96
Overview	96
PostScript3 Installation	97
PictBridge Installation	97
Java VM Option Installation	
Wireless LAN (IEEE 802.11b) Installation	
IEEE 1284 Installation	

Bluetooth Installation	
USB Host Installation	
Data Overwrite Security Unit Type D (B735)	
2. Preventive Maintenance	
PM Tables	
PM Counter	
How to Reset the PM Counter	
PM Counter Reset List	
Cleaning Procedures	
Maintenance Unit	
Print Heads	
Transport Belt	
3. Replacement and Adjustment	
General Cautions	
Scanner Unit	
Paper feed	
Important	
Special Tools and Lubricants	
Exterior Covers	
Rear Cover	
Rear Engine Unit Cover	121
Top Left Front, Left Front and Interface Cover	
Right Door	
By-pass Tray	
Front Cover	
Operation Panel	
Scanner Unit	
Exposure Glass	
Lens Block	
Exposure LAMP	
Original WIDTH/Length Sensor	
Scanner Motor	
Lamp Stabilizer	

Engine	134
Engine Unit	134
DRV Board	138
CONIJ (Connect Ink Jet Module)	138
Maintenance Unit	138
Ink Collection Tank	140
Sub Scan Encoder and Encoder Sensor	141
Main Scan Drive Motor	143
Sub Scan Drive Motor	145
Flushing Gate Unit	145
Transport Belt Unit	146
Charge Roller	149
Power Pack	149
Paper Feed	151
Paper Feed Motor	151
Registration Motor	152
Registration Roller	
Paper Feed, Paper Transport and Duplex Clutch	
Paper Feed roller and Friction Pad	
Paper End Sensor	156
By-pass Paper Size Switch	
By-pass Feed Roller and Paper End Sensor	
Registration Sensor	158
One-Sheet By-pass Paper End Sensor	159
Paper Size Switch	159
Paper Exit	161
Paper Exit Tray	161
Paper Exit Unit	
Paper Exit Sensor	162
Junction Gate Sensor	163
Paper Exit Motor	163
Engine Sensor	164
System Temperature Sensor	

Electrical Components	166
Controller Box	
Controller Board	166
NVRAM and DIMM RAM	
IOB Board	
PSU Board	
BICU Board	171
NVRAM Replacement Procedure	172
Image Adjustment	174
Preparing for Test Printing	174
Adjust Paper Feed	174
Nozzle Blockage Check	
Adjust Print Head Position	
Registration	177
Copy Adjustments: Printing/Scanning	
Printing	179
Scanning	
ADF Image Adjustment	
4. Troubleshooting	
Service Call	
Service Call Conditions	
SC table	
General Troubleshooting	
High Frequency Nozzle Blocking	
Nozzle Block Check	
Banding/Thin Horizontal Line	
Vertical Ruled Line Error	
Poor Quality Image	
Poor Printer Performance (Miscellaneous)	
Unusual Noises	
Alert Message Does Not Clear	
Horizontal lines	

Paper Jam	
Blurred Image	
Text Shifting	
Paper Printing Surface Dirty	
Ink Near End Status Keeps Longer Time	
Light Image	
Incorrect Color	
Slow Printing Speed	
Uneven Image Density	
Remaining Paper Jams	
Image Test Mode	
Overview	
IPU test	
Initial Ink Loading	
Procedure	
Electrical Component Defects	
Sensors	
Switches	
Blown fuse conditions	
5. Service Tables	
Service Program Mode	
How to Enter the SP Mode	
SP Mode Tables	
SP1-XXX (Feed)	
SP2-XXX (Drum)	
SP3-XXX (Process)	
SP4-XXX (Scanner)	
SP5-XXX (Mode)	
SP6-XXX (Peripherals)	
SP7-XXX (Data Log)	
SP8-XXX (History)	
Printer Service Mode	
Scanner SP Mode	

Using SP Modes	404
Adjusting Registration and Magnification	404
Display APS Data (SP 4301 1)	404
Memory Clear	404
Input Check (SP 5803)	406
Output Check (SP 5804)	411
NVRAM Data Upload/Download (SP 5824/5825)	414
Firmware Update Procedure	416
SD Card Appli Move	416
SMC Print (SP 5990)	418
ADF APS Sensor Output Display (SP 6901)	419
Card Save Function	420

### 6. Details

Overview	425
Component Layout	425
Paper Path	426
Drive Layout	428
Board Structure	429
Block Diagram	429
Copy Process Overview	432
Scanning	432
Processing	432
Printing	432
Scanning	433
Overview	433
Lamp Stabilizer Fuse	433
Scanner Drive	434
Original Size Detection in Platen Mode	435
Image Processing	438
SBU (Sensor Board Unit)	438
BICU (Base - Engine Image Control Unit)	439
Carriage Unit	440
Overview	440

Print Head	441
Print Head Tank	
Ink Ejection Device	
Ink Near End	450
Ink Out	451
Paper Registration and Size Detection Sensor	452
Ink Supply Unit	453
Overview	453
Print Cartridges	454
Print Cartridge Set Sensor	454
Ink Supply Pump	455
Maintenance Unit	456
Overview	456
Maintenance Unit	456
Ink Collection Tank	
Ink Collection Tank Full Detection	461
Flushing Gate Unit	
Carriage Drive	467
Overview	
Carriage Drive	
Envelope Selector	
Paper Feed, Transport, Output	
Overview	
Leading Edge and Page Width Detection	471
Trailing Edge Detection	
Paper Transport Drive	473
Paper Path	
Transport Belt	
Charge Leak Detection	475
Paper Feed	477
Overview	
Paper Feed Drive Mechanism	
Paper Feed and Separation Mechanism	

	Paper Lift Mechanism	480
	Paper End Detection	481
	Paper Size Detection	481
	Side Fences	484
	Paper Registration	485
Ρ	aper Exit	486
	Overview	486
	Paper Exit Path	487
	Paper Stop Function	489
	Energy Saver Modes of Basic Machines	491

## 7. Specifications

General Specifications	493
Supported Paper Sizes	497
Original Size Detection	497
Paper Feed and Exit	498
Machine Configuration	504
Optional Equipment	506
ARDF	506
ADF	506
One-Tray Paper Tray Unit	507
Two-Tray Paper Tray Unit	508
Duplex Unit	508

# **1. Installation Procedure**

## Installation Requirements

## 

- Before installing options, please do the following:
- If there is a fax unit in the machine, print out all messages stored in the memory, the lists of userprogrammed items, and the system parameter list.
- If there are printer jobs in the machine, print out all jobs in the printer buffer.
- Turn off the main switch and disconnect the power cord, the telephone line, and the network cable.

#### Environment

For this machine, it may take two hours or more to get normal operation if there is condensation inside the exposure glass at the scanner unit. In that case, leave the copier turned on the main power switch for two hours or more.





- Temperature Range: 10°C to 32°C (50°F to 89.6°F)
- Humidity Range: 15% to 80% RH
- Ambient Illumination: Less than 2,000 lux (do not expose to direct sunlight)
- Ventilation: 3 times/hr/person or more

- Ambient Dust: Less than 0.1 mg/m<sup>3</sup> (2.7 x 10<sup>-6</sup> oz/yd<sup>3</sup>)
- Avoid areas exposed to sudden temperature changes:
  - Areas directly exposed to cool air from an air conditioner.
  - Areas directly exposed to heat from a heater.
- Do not place the machine where it is exposed to corrosive gases.
- Do not install the machine at any location over 2,000 m (6,500 ft.) above sea level.
- Place the copier on a strong and level base. (Inclination on any side should be no more than 5 mm.)
- Do not place the machine where it is 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, providing clearance as shown:



b229i104

A (front): 450 mm (17.7")

B (left): 520 mm (20.5")

C (rear): 50 mm (2.0")

D (right): 530 mm (20.9")

#### Note

• The recommended 450 mm front space is sufficient to allow the paper tray to be pulled out. Additional front space is required to allow operators to stand at the front of the machine.

#### **Power Requirements**

## 

- Make sure that the wall outlet is near the machine and easily accessible. After completing installation, make sure the plug fits firmly into the outlet.
- Avoid multi-wiring.
- Be sure to ground the machine.

#### Input voltage:

North and South America, Formosa: 110 – 120 V, 60 Hz, 4 A Europe, Asia: 220 – 240 V, 50/60 Hz, 2 A

## **Optional Unit Combinations**

## **Machine Options**

No.	Options	Remarks
1	1-Tray Paper Unit	
2	2-Tray Paper Unit	-
3	Duplex Unit	
4	Platen Cover	-
5	A(R)DF	-
6	Accessibility Handle Type B	NA Only

## **Controller** Options

No.	Options	Remarks
1	Bluetooth	
2	IEEE 802.11b	I/F Slot C
3	IEEE 1284	
5	USB Host Interface Unit	I/F Slot B
7	PostScript 3	
8	PictBridge Option	SD card slot 2
9	Data Overwrite Security Unit Type D	
11	VM Card Type D	SD card slot 3 (during installation only)
12	Copy Data Security Unit	-

#### **Fax Options**

No.	Options	Remarks
-----	---------	---------

1	Fax Option Type C1800	-
2	Marker Type 30	-
3	*Hand Set Type 1018	NA Only

\*: Child options (Child options require a parent option.)

## Other Options

No.	Options	Remarks
1	Copy Data Security Unit Type A	-
2	Optional Counter Interface Unit Type A	-
3	Function Upgrade Option	-

## **Copier Installation**

### Installation Flow Chart

This flow chart shows the best procedure for installation.



1

### **Power Sockets for Peripherals**

## 

- Rated voltage for peripherals
- Make sure to plug the cables into the correct sockets.



### Accessory Check

Check that you have the accessories indicated below.

No.	Description	Q'ty
1	CD-ROM - Drivers/ Utilities	1
2	EU Safety Sheet (EU only)	1
3	Emblem (EU only)	1
4	Emblem Cover	1
5	Operation Instructions	1 set
6	Paper Tray Decal	1
7	Decal - Contact Glass	1
8	Decal – Operation Panel (EU only)	1
9	Decal – Paper Caution (EU only)	1
10	Decal – Power Source Off (EU only)	1
11	Hexagonal Wrench	1
12	Handle Cover	3
13	Mylar to cover handle slot	1
14	NECR (NA)	1
15	EULA Sheet	1
16	CAUTION Seal	1
17	Report Sheet	1

Note

• The above accessories provided with a main unit differ depending on the destination.

## Before Installing a Copier

## 

- When moving or lifting a copier to install, please do the following:
- Pull out and grasp the four handles at the each side (two handles each) of this copier to lift the copier.
- Two persons must be required to lift the copier at least. The copier is highly unstable when lifted by one person, and may cause human injury or property damage.

1

#### Using the Handles



- 1. Pull out the four handles [A] from the copier.
- 2. Grasp the handles with two persons at least to lift the copier.
- 3. After installation, insert the all handles fully inside the handle slots of the copier.
- 4. Loosen the screw at the each handle slot first, and then secure the screw with the hexagonal wrench provided in the copier to prevent the handles from coming out from the handle slots of the copier.



#### **Installation Procedure**

1. Remove filament tape and other padding.



2. Attach the appropriate paper tray decal [A] to each paper tray.

Note

• Paper tray decal is also used for the optional paper tray. Keep the decal for use with the optional paper tray unit.



d045i132

3. Secure the side fences [A] in place with screws in the position corresponding to the paper size.



• Before doing this procedure, you must attend the customers permission to do it.

Note

• In case of optional paper tray:

1



d045i133

- 4. Insert all handles fully inside the handle slots of the copier.
- 5. Loosen the screw at each handle slot first, and then secure the screw with the hexagonal wrench provided in the copier to prevent the handles from coming out from the handle slots of the copier.



b229i005a

6. Keep the hexagonal wrench inside the front cover [A] of the copier.



7. Install the three handle covers [A] and attach the mylar to the handle slot [B].



8. Slide the cartridge stopper [A] in the arrow direction, removing it for each color.



9. Open the front door [A] and install ink cartridge (4 cartridges) [B].

#### Note

- Make sure that four cartridges are fully set.
- 10. Close the front door.



- 11. Attach the correct emblem [A] to the front cover if the emblem is not already attached to the front cover.
- 12. Install the optional ARDF, ADF, or platen cover.

## 1



13. Plug in the main power cord and turn on the main switch (Rear side) [A].

## 

- Do not open covers during ink loading.
- Do not open any covers until the "Ready" message appears on the control panel. If you do, the
  ink loading procedure is interrupted, and the power must be switched off and then back on. If
  the main power switch is turned back on to complete an interrupted ink loading, additional ink
  might be used and a further 15 minutes might be required.

#### Note

- If the initial ink loading is interrupted for any reason, refer to "Initial Ink Loading" (☞ "p.234") in the section Troubleshooting to solve the problem.
- 14. Activate the User Tools and select the menu "Language."
- 15. Specify a language. This language is used for the operation panel.

Pull the paper tray out. Then turn the paper size dial to select the appropriate size. Adjust the side guides and end guide to match the paper size.

#### Initial Setting

```
Note
```

- The following settings require some knowledge about print head adjustment.
- Refer to "Adjust Print Head Position" in the section "Replacement and Adjustment" and "Print Head" in the section "Detailed Section Descriptions" for details.

Do the following initial settings after installing the copier.

1. Copy C4 chart in full color mode and B/W mode.

- 2. Do the "Nozzle Check Pattern" (🖝 "p.27").
- 3. Do the "Head Position Adjust" (*r* "p.27").
- 4. Copy C4 chart in B/W text mode again.
- 5. Check the gray scale line on the printout copied in B/W mode.
- 7. Print out the test pattern "15" with SP4-417-001.
- 9. Do the "Registration" with UP or SP:

#### Checking the Nozzle Pattern

- 1. Do the "Nozzle Check Pattern" ("User Tools" > "Maintenance").
- 2. Check if the nozzle check patter on a printed paper is satisfactory.
- 3. Do the "Clean Print-heads" if a printed nozzle check pattern is not satisfactory. For details, refer to the "Replacement and Adjustment" or "Operation Instructions" about details

Note

You must load A4/Letter paper in SEF orientation.

#### Adjustment

 Do the "Head Position Adjust", "Registration" and "Adjust Paper Feed" ("User Tools" > "Adjustment"). For details, refer to the "Replacement and Adjustment" or "Operation Instructions" about details.

Note

• You must load A4/Letter paper in SEF orientation.

#### Head Gap Adjustment

In the 600dpi B/W copy mode, an image problem, which is difficult to adjust with "Head Position Adjust" in the UP mode, may occur sometimes. This adjustment compensates for "Head Position Adjust" in the UP mode.

1. Copy C4 chart in B/W text mode.

1



2. Check the gray scale line [A] on the printout.



3. Adjust the gap between K1 and K2 print heads if a textured image appears.

This machine has the following formula for adjusting the print head alignment.

I - A = H

"A" (K1 forward head position)

"I" (K2 forward head position)

"H" (K2 reverse head position)

"I - A" means the shift value between K1 print head and K2 print head in forward scanning.

"H - K1 reverse head position (standard value for alignment: 0)" means the shift value between K1 print head and K2 print head in reverse scanning.

"H - K1 reverse head position (0)" should be equal to "I -A" to prevent a texture image.

#### In case of the image problem in the left side picture:

- 1. Enter the SP mode.
- 2. Check the value of SP3-002-010 [1200:A], -017 [1200:H] and -018 [1200:I].
- 3. Calculates the value "I" using above formula.

For example, A = +5,  $H = +1 \Rightarrow I = +6$ 

- 4. Enter the result from the formula with SP3-002-018.
- 5. Exit the SP mode, and then copy C4 chart in B/W text printing mode again.



- 6. Try and see until the gray scale line becomes an ideal image [B].
- 7. Exit the SP mode.

#### In case of the image problem in the right side picture:

- 1. Enter the SP mode.
- 2. Check the value of SP3-002-010 [1200:A], -017 [1200:H] and -018 [1200:I].
- 3. Calculates the value "H" using above formula. For example, A = +5,  $I = +4 \Rightarrow H = -1$
- 4. Enter the result from the formula with SP3-002-017.
- 5. Exit the SP mode, and then copy C4 chart in B/W text printing mode again.
- 6. Try and see until the gray scale line becomes an ideal image [B].
- 7. Exit the SP mode.

#### Note

• You must load A4/Letter paper in SEF orientation.

#### Sub Scan: Send Adjustment

- 1. Enter the SP mode.
- 2. Print out the scanner test pattern "15" (Gray Pat 1) with SP4-417-001.



3. If black or white lines in main scan direction occur in the test pattern, adjust the paper feed timing with SP1-922-001 ("SubScan:Send Adj").

#### In case of black line problem:

1. Select SP1-922-001, and decrease the value one by one.

#### Note

• The value of 1 indicates 1 line.



- 2. Adjust until the gray scale becomes an ideal image [A].
- 3. Exit the SP mode.

#### In case of white line problem:

1. Select SP1-922-001, and increase the value one by one.

Note

- The value of 1 in the SP setting indicates 1 line.
- 2. Adjust until the gray scale becomes an ideal image [A].
- 3. Exit the SP mode.

#### Note

• You must load A4/Letter paper in SEF orientation.

1

#### Moving the Machine

## 

- Make sure that the carriage unit is properly engaged with the maintenance unit before turning off the power (see "Maintenance Unit" in the Replacement and Adjustment), otherwise the print head may be damaged while moving the machine.
- If much waste ink is filled in the ink collection tank, remove the tank before moving the machine (see "Ink Collection Tank" in the Replacement and Adjustment).

This section shows you how to manually move the machine from one floor to another floor. See "TRANSPORTING MACHINE" if you will use some transport equipment.

The machine stands make it difficult to move the copier with an optional paper tray or duplex unit installed. You can remove them as necessary.

- 1. Check that the machine is in standby status.
- 2. Turn off the main power and unplug the power cable.
- 3. Remove all trays from the optional paper feed unit or LCT.



b384i002a

4. Loosen the adjuster [A] to release the machine from the place it is anchored to.



5. Remove the four brackets and covers [A]. ( $\hat{\not{P}} \times 8$ ).

### 

- Do not tilt the machine more than 45 degrees.
- Reinstall the adjuster and brackets after you move the machine. If this is not done, the machine could fall over when pulling out a paper tray or while working on the machine.

#### Transporting the Machine

## 

- Make sure that the carriage unit is properly engaged with the maintenance unit before turning off the
  power (see "Maintenance Unit" in Replacement and Adjustment), otherwise the print head may be
  damaged while moving the machine.
- If much waste ink is in the ink collection tank, remove the tank before moving the machine (see "Ink Collection Tank" in the Replacement and Adjustment).

This section shows you how to manually transport the machine by truck or plane.

The machine stands make it difficult to move the copier with an optional paper tray or duplex unit installed. You can remove them as necessary.

- 1. Perform ink purge with SP2100-001.
- 2. Turn off the main power and unplug the power cable.
- 3. Remove the ink cartridges.
- 4. Loosen the adjuster to release the machine from the place. (see "Moving Machine")
- 5. Remove the four brackets and covers (see "Moving Machine").
- Make sure there is no paper left in the paper trays. Then fix down the bottom plates with a sheet of paper and tape.
- 7. Remove the ink collection tank (see "Ink Collection Tank" in the Replacement and Adjustment)

- 8. Do one of the following:
- 9. Attach shipping tape to the covers and doors.
- 10. Shrink-wrap the machine tightly.

#### **Vote**

- Make sure you reinstall the ink collection tank.
- Make sure you check the nozzle pattern (User Tools) and each adjustment (see "Initial setting") after you move the machine.

## **Platen Cover Installation**

### Accessory Check

Check that you have the accessories indicated below.

No.	Description	Q′ty
1	Stepped Screw	2

### **Installation Procedure**

## 

- Unplug the machine power cord before starting the following procedure.
- 1. Install the platen cover [A] ( $\hat{\mathscr{F}} \times 2$ ).



1

## **ARDF** Installation

### Accessory Check

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

No.	Description	Q′ty
1	Scale Guide	1
2	DF Exposure Glass	1
3	Stud Screw	2
4	Knob Screw	2
5	Original Size Decal	2
6	Screwdriver Tool	1
7	Attention Decal – Top Cover	1
8	Stamp Cartridge	1
9	Installation Procedure	1

## Installation Procedure

## 

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


1. Remove the strips of tape.



- 2. Remove the left scale [A] ( $\hat{\mathscr{F}}$  x 2).
- 3. Place the DF exposure glass [B] on the glass holder.

#### Note

- When installing the DF exposure glass, make sure that the white point [C] is on the lower front side of the glass, as shown.
- 4. Peel off the backing [D] of the double-sided tape attached to the rear side of the scale guide [E], then install it (2 screws removed in step 2).
- 5. Install the two stud screws [F].



b814i104a

- 6. Mount the DF on the copier, and then slide the DF to the front as shown.
- 7. Secure the DF unit with two screws [A].
- 8. Connect the cable [B] to the copier.



- b814i501a
- 9. Attach the appropriate scale decal [A] as shown.



10. Attach the decal [A] to the top cover as shown, choosing the language most suitable for the machine installed.



- 11. Open the ARDF [A].
- 12. Install the stamp cartridge [B] to the ARDF.



13. Attach the clamp [A] on the right side of copier and clamp the I/F cable as shown.

#### Vote

- The clamp [A] is provided with main frame (D045).
- 14. Turn the main power switch on. Then check if the document feeder works properly.
- 15. Make a full size copy. Then check to make sure the side-to-side and leading edge registrations are correct. If they are not, adjust the side-to-side and leading edge registrations (refer to the service manual).

# **ADF** Installation

## Accessory Check

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

No.	Description	Q'ty
1	Scale Guide	1
2	DF Exposure Glass	1
3	Stud Screw	2
4	Fixing Screw	2
5	Original Size Decal	2
6	Screwdriver Tool	1
7	Attention Decal – Top Cover	1
8	Stamp Cartridge	1
9	Installation Procedure	1

## Installation Procedure

## 

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



1. Remove the strips of tape.



- 2. Remove the left scale [A] ( $\hat{\mathscr{F}}$  x 2).
- 3. Place the DF exposure glass [B] on the glass holder.

#### Note

- When installing the DF exposure glass, make sure that the white point [C] is on the lower front side of the glass, as shown
- Peel off the backing [D] of the double-sided tape attached to the rear side of the scale guide [E], then
  install it (<sup>2</sup>/<sub>8</sub> x 2 removed in step 2).
- 5. Install the two stud screws [F].



b387i104a

- 6. Mount the DF on the copier, then slide the DF to the front as shown.
- 7. Secure the DF unit with two screws [A].
- 8. Connect the cable [B] to the copier.



9. Attach the appropriate scale decal [A] as shown.



10. Attach the decal [A] to the top cover as shown, choosing the language most suitable for the machine installed.



- 11. Open the ADF [A].
- 12. Install the stamp cartridge [B] to the ADF.
- 13. Turn the main power switch on. Then check if the document feeder works properly.
- 14. Make a full size copy. Then check to make sure the side-to-side and leading edge registrations are correct. If they are not, adjust the side-to-side and leading edge registrations (refer to the service manual).

# **One-Tray Paper Tray Unit**

## Accessory Check

No.	Description	Q′ty
1	Screw M4 x 10	2
2	Stepped Screw	2
3	Bracket	2

## Installation Procedure

There are two installation procedures; the optional paper tray and duplex unit or the optional paper tray only (for the D045). Follow the installation procedure that you need.

#### For model D045 "with the duplex unit" (B806)



1. Remove the strips of tape.

#### Note

• After removing the tape that secures the peripheral components and cardboard to the paper tray, make sure that there is no tape and/or tape residue remaining on the tray.



2. Remove the cover [A] ( $\hat{\not}^2 \times 4$ ).



d045i109

3. Remove the bracket [A] ( $\hat{\mathscr{F}}$  x 2).



4. Set the duplex unit [A] on the paper tray unit [B] first, and then set the copier [C] on the duplex unit mounted on the paper tray unit.

#### Note

- When installing the copier, be careful not to pinch the connecting harness.
- 5. Remove the rear cover of the duplex unit ( $\hat{\beta}^2 \times 1$ : M3 x 6, stepped screw x 1).
- 6. Remove the rear cover of the optional paper tray unit (Stepped screw x 2,  $\hat{\mathscr{F}}$  x 1).



d045i131

7. Remove the bracket [A] at the bottom of the duplex unit ( $\hat{\beta}$  x 1).



- 8. Route the harness [A] in the duplex unit as shown ( $\textcircled{B} \times 2$ ).
- 9. Re-install the rear cover of the duplex unit.
- 10. Re-install the rear cover of the optional paper unit.



b385i105b

- 11. Secure the duplex unit to the paper tray unit with brackets (Stepped screw x 2).
- 12. Set the Duplex unit to the copier.

#### Note

• Refer to the "Duplex Unit Installation".



- 13. Connect the harness to the connector (CN127) [A] from the paper tray unit to the copier (🛱 x 1)
- 14. Re-install the bracket removed in step 3.
- 15. Re-install the rear cover removed in step2.
- 16. Plug in the machine and turn on the main power switch.
- 17. Load paper and make full size copies. If the side and leading edge registrations are not correct, adjust them.

#### For the D045 model "without duplex unit" (B806)

1. Remove the strips of tape.

Note

• After removing the tape that secures the peripheral components and cardboard to the paper tray, make sure that there is no tape and/or tape residue remaining on the tray.



2. Remove the cover [A] ( $\hat{\mathscr{F}} \times 4$ ).



3. Remove the bracket [A] ( $\hat{\mathscr{F}} \times 2$ ).



4. Set the copier [A] on the paper tray unit [B].

## Note

- When installing the copier, be careful not to pinch the connecting harness.
- 5. Remove the rear cover of the paper tray unit (Stepped screw x 2,  $\hat{\mathscr{F}}$  x 1)



- 6. Route the harness [A] of the paper tray unit, and loop it between the two clamps [B].
- 7. Re-install the rear cover of the paper tray unit.



8. Remove the 1st tray [A].

49



9. Secure the paper tray unit to the copier with two screws [A] and two bracket [B] (Stepped screw x 2).



- 10. Connect the harness to the connector (CN127) [A] from the paper tray unit to the copier ( $\stackrel{()}{\models}$  x 1)
- 11. Re-install the bracket removed in step 3.
- 12. Re-install the rear cover removed in step2.
- 13. Plug in and turn on the main power switch of the copier.
- 14. Load paper and make full size copies. If the side and leading edge registrations are not correct, adjust them.

## Optional Paper Tray Grip Handle – Optional Paper Tray Unit

The following procedure is for the 1-tray or 2-tray optional paper feed unit only.



1. Remove the paper tray units [A] from the machine.



b229i711a

2. Lower the paper tray grip handle [A] into the paper tray slot as shown with the arrow in the above illustration.



b229i712a

- 3. Attach the grip handle to the paper tray ( $\hat{\mathscr{F}} \times 2)$  as shown above.
- 4. Put the paper tray back into the machine.

## **Two-Tray Paper Tray unit Installation**

## Accessory Check

No.	Description	Q′ty
1	Screw M4 x 10	10
2	Bracket with long support	4
3	Bracket	2
4	Adjuster	1
5	Cover	4

## Installation Procedure

There are two installation procedures; the optional paper tray and duplex unit or the optional paper tray only (for the D045). Follow the installation procedure that you need.

### For installing with the duplex unit" (B806)



1. Remove the strips of tape.

#### Note

- After removing the tape that secures the peripheral components and cardboard to the paper tray, make sure that there is no tape and/or tape residue remaining on the tray.
- 2. Attach the adjuster [A] onto the base plate, as shown.

1

## Note

• When a table is installed, this procedure is unnecessary.



3. Remove the rear cover [A] ( $\hat{\not}^2 \times 4$ ).



4. Remove the lower bracket [A] ( $\hat{\not}$  x 2).



5. Set the duplex unit [A] on the paper tray unit [B] first, and then set the copier [C] on the duplex unit mounted on the paper tray unit.

#### Note

- When installing the copier, be careful not to pinch the connecting harness.
- 6. Remove the rear cover of the duplex unit ( $\hat{\mathscr{F}} \times 1$ : M3 x 6, stepped screw x 1).
- 7. Remove the rear cover of the optional paper tray unit (Stepped screw x 2,  $\hat{\mathscr{F}}$  x 1).



d045i131

8. Remove the bracket [A] at the bottom of the duplex unit ( $\hat{\beta}^2 \times 1$ ).



- 9. Route the harness [A] in the duplex unit as shown ( $\bigotimes$  x 2).
- 10. Re-install the rear cover of the duplex unit.
- 11. Re-install the rear cover of the optional paper unit.



- 12. Secure the duplex unit to the paper tray unit with brackets (Stepped screw x 2).
- 13. Set the Duplex unit to the copier.

#### Note

• Refer to the "Duplex Unit Installation".



- 14. Connect the harness to the connector (CN127) [A] from the paper tray unit to the copier. (🛱 x 1)
- 15. Re-install the bracket removed in step3.
- 16. Re-install the rear cover removed in step3.



17. Install the four brackets with long supports [A] and four covers [B] ( $\hat{\not\!\!\!\!\!\!\!\!\!}} x \ 2 \ each).$ 

## Important

• These long supports prevent the unit from tipping over.



b384i002a

- 18. Rotate the adjuster [A] to fix the machine in place.
- 19. Plug in and turn on the main power switch of the copier.
- 20. Load paper and make full size copies from each tray. If the side and leading edge registrations are not correct, adjust them. (Refer to the "Service Manual".)

#### For installing "without the duplex unit" (B806)



1. Remove the strips of tape.

Vote

- After removing the tape that secures the peripheral components and cardboard to the paper tray, make sure that there is no tape and/or tape residue remaining on the tray.
- 2. Attach the adjuster [A] onto the base plate, as shown.

#### Note

• When a table is installed, this procedure is unnecessary.



3. Remove the rear cover [A] ( $\hat{\not}$  x 4).



- d045i109
- 4. Remove the lower bracket [A] ( $\hat{\not}$  x 2).

59



5. Set the copier [A] on the paper tray unit [B].

#### Note

- When installing the copier, be careful not to pinch the connecting harness.
- 6. Pull out the I/F harness from the paper tray unit.

### Note

If it is difficult to pull out the I/F harness, remove the rear cover of the paper tray unit (Stepped screw x 2, <sup>3</sup>/<sub>8</sub> x1), and then pull out the I/F harness from the paper tray unit.



7. Remove the 1st tray [A].



- 8. Secure the optional paper tray to the copier with two screws [A] and two brackets [B] (Stepped screw x 2).
- 9. Re-install the paper tray 1.



- 10. Connect the harness to the connector (CN127) [A] from the paper tray unit to the copier. (🛱 x 1)
- 11. Re-install the bracket removed in step3.
- 12. Re-install the rear cover removed in step3.



13. Install the four brackets with long supports [A] and four covers [B] ( $\hat{\not}^2$  x 2 each).

#### Comportant )

• These long supports prevent the unit from tipping over.



b384i002a

- 14. Rotate the adjuster [A] to fix the machine in place.
- 15. Plug in and turn on the main power switch of the copier.
- Load paper and make full size copies from each tray. If the side and leading edge registrations are not correct, adjust them. (Refer to the "Service Manual".)

## Optional Paper Tray Grip Handle – Optional Paper Tray Unit

This procedure is the same as the one for the One-Tray Paper Tray Unit. See "Optional Paper Tray Grip Handle – Optional Paper Tray Unit" in the installation procedure for One-Tray Paper Tray Unit.

# **Duplex Unit Installation**

## Accessrory Check

No.	Description	Q'ty
1	Screw M4 x 10	3
2	Stepped Screw	1
3	Bracket	2
4	Installation Procedure	1

## Installation Procedure

There are two installation procedures, the duplex unit only, or the duplex unit and optional paper tray unit, for the copier D045. Follow the installation procedure that you need.



1. Unpack the duplex unit and remove all pieces of tape.

For Installing the Duplex Unit Only



1. Set the copier on the duplex unit.

#### Note

• When installing the duplex unit, be careful not to pinch the connecting harness.



- 2. Remove the rear cover [A] of the copier ( $\hat{\beta}^{i} \times 4$ ).
- 3. Remove the 1st tray of the copier.



- 5. Re-install the 1st tray of the copier.



- 6. Remove the lower bracket [A] of the copier ( $\hat{\not\!\!\!\!\!\!\!\!}^{2}$  x 2).
- 7. Set and connect the I/F harness [B] of duplex unit with clamp [C] as shown.
- 8. Re-install the lower bracket [A] to the copier ( $\hat{\beta}^2 \times 2$ ).



Remove the top left front cover [A] (𝔅 × 1), the left front cover [B] (𝔅 × 1) and the interface cover [C] (𝔅 × 2).



10. Remove the left cover [A] ( $\hat{\mathscr{F}}^2 \times 2$ ).

Note

- Keep the two screws for step15.
- 11. Remove the two brackets [B] from the left cover ( $\hat{\mathscr{F}}^{i} \times 1$  each).
- 12. Remove the handle cover [C].



d045i126

13. Connect the harness of the inverter unit [A] with the harness of the copier as shown above.



- d045i511
- 14. Set and connect the harness of the inverter unit [A] as shown (  $\stackrel{(\bigstar}{\trianglerighteq} x$  3)



15. Install the inverter unit [A] ( $\hat{\beta}$  x 2).



### Note

- When you install the inverter unit, make sure that the lever [A] of the inverter unit is on the junction gate unit [B] (as shown in the right picture). If the inverter unit is not correctly installed (as shown in the left picture), paper jam occurs at junction gate.
- 16. Re-install the left front cover ( $\hat{\beta} \times 1$ ), top left front cover ( $\hat{\beta} \times 1$ ) and interface cover ( $\hat{\beta} \times 2$ ).
- 17. Re-install the rear cover ( $\hat{\mathscr{F}} \times 4$ )
- 18. Plug in and turn on the main power switch, and then check if the duplex unit works properly. If the side and leading edge registrations are not correct, adjust them. (Refer to the "Service Manual".)

# Heater Kit Installation

## Component Check

No.	Description	Q′ty
1	Relay Harness for PSU	1
2	Relay Harness for Optional Paper Tray Unit	1
3	Clamp	14
4	Screw (M3 x 6)	3
5	Tray Heater for Optional Paper Tray Unit	1
6	Tray Heater for Main Frame	1
7	Anti-condensation Heater	1
8	Switch	1
9	Decal	1



## Installation Procedure

## 

• Before installing, make sure that the power source rating of the heater kit is the same as the machine.

For Installing the Anti-Condensation Heater and Tray Heater



1. Remove the rear cover [A] ( $\hat{\mathscr{F}} \times 4$ ) and the interface cover [B] ( $\hat{\mathscr{F}} \times 2$ ).



- 2. Pull out the paper tray 1.
- 3. Install the tray heater [A] in the top of the paper tray 1 opening ( $\mathscr{F} \times 1$ ).


- 4. Open the A(R)DF or platen cover if it has been installed.
- 5. Remove the rear [A] scale ( $\hat{\mathscr{F}}^{i} \times 3$ ) and left scale [B] with exposure glass ( $\hat{\mathscr{F}}^{i} \times 2$ ).



- 6. Move the scanner carriage to the right side by rotating the wheel [A] counterclockwise.
- 7. Install the anti-condensation [B] in the scanner unit ( $\hat{\mathscr{F}} \times 1$ ).
- 8. Pass the connector [C] of the anti-condensation heater through the cutout.



d045i101

- 9. Pull the handle [A] out from the machine.
- 10. Release the harness from the clamp [B].
- 11. Remove the bracket [C] ( $\hat{\mathscr{F}} \times 1$ ).



12. Remove the Ink collection tank [A] (  $\operatorname{Im} x$  1).



d045i102

13. Remove the bracket [A] (🖗 x 3, 🛱 x 2).



d045i103

14. Attach the two large clamps.



15. Disconnect the three connectors [A] from the PSU [B].



d045i105

16. Remove two screws to release the PSU.



d045i106

17. Attach the small clamp.



18. Connect the PSU harness [A] to the connector [B] on the PSU.



19. Attach the six small clamps at each position as shown above.

20. Route the anti-condensation heater harness [A] and the PSU harness [B], and then connect them ( $\bigotimes x 6$ ).



21. Route the PSU harness [A], and then connect it to the tray heater harness [B] (B x 2).



d045i112

22. Remove plate [A] (🖗 x 2).



d045i113

23. Install heater switch [A] as shown above.



d045i130

- 24. Connect PSU harness [A] to the heater switch ( $\bigotimes x$  1).
- 25. Reinstall the PSU (🖗 x 2).
- 26. Reassemble the copier.



d045i138

- 27. Attach the decal [A] to the interface cover surface
- 28. Plug in and turn on the main power switch.
- 29. Check the machine operation.

### **Optional Tray Heater**

#### For One-tray Paper Tray Unit



- 1. Remove the rear cover of the copier ( $\hat{\mathscr{F}} \times 4$ ).
- 2. Remove the rear cover of the optional paper tray unit [A] ( $\hat{\mathscr{F}} \times 5$ , bracket x 2).
- 3. Remove the rear cover [B] of the duplex unit if it has been installed ( $\mathscr{F} \times 4$ , bracket x 2).



b886i113a

- 4. Pull out the paper tray 2.
- 5. Install the tray heater [A] ( $\hat{P} \times 1$ ).



b886i114a

- 6. Attach the three clamps [A] to the optional paper tray unit.
- 7. Route the tray heater harness [B] as shown (总 x 1).
- Route the relay harness [C] and connect it to the tray heater harness (⅔ x 3).
   If the duplex unit has been installed, do step 9. If not, skip step 9.



b886i117a

9. Route the relay harness [A] as shown (eqtirmsize x 2).

1



- b886i118a
- 10. Remove the bracket [A] ( $\hat{\not}^2 \times 2$ ).
- 11. Route the relay harness [B] and connect it to the PSU harness as shown (eq x 1).
- 12. Reassemble the copier.
- 13. Plug in and turn on the main power switch.
- 14. Check the machine operation.

### For Two-tray Paper Tray Unit



1. Remove the rear cover of the copier ( $\hat{\mathscr{F}} \times 4$ ).

- 2. Remove the rear cover of the optional paper tray unit [A] ( $\mathscr{F} \times 5$ , bracket  $\times 2$ ).
- 3. Remove the rear cover [B] of the duplex unit if it has been installed.



- 4. Pull out the paper tray 2 and tray 3.
- 5. Install the tray heater [A] ( $\hat{\mathscr{F}} \times 1$ ).



- 6. Attach the two clamps [A] to the optional paper tray unit.
- 7. Route the tray heater harness [B] as shown ( $\bigotimes x$  1).
- Route the relay harness [C] and connect it to the tray heater harness (\$\$\overline\$ x 3).
   If the duplex unit has been installed, do step 9. If not, skip step 9.





b886i118a

- 10. Remove the bracket [A] ( $\hat{\not}$  x 2).
- 11. Route the relay harness [B] and connect it to the PSU harness as shown (B x 1).
- 12. Reassemble the copier.
- 13. Plug in and turn on the main power switch.
- 14. Check the machine operation.

# Function Upgrade Option Installation

### Component check

No.	Description	Q′ty
1	HDD Unit	1
2	RAM DIMM	2
3	Knob Screw	4
4	Screw M3 x 6	1
5	I/F Harness	1
6	I/F Cable	1
7	Ferrite Core	1 / 2 (EU only)
8	Harness Clamp	1
9	Clamp	2

## Installation Procedure

## 

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



- 1. Rear cover [A] (🖗 x 4)
- 2. Interface cover [B] (₯ x 2)



d045i115

3. FCU bracket or FCU [A] (🖗 x 3)



4. Controller box cover [A] ( $\hat{\beta}$  x 15, Grandwire x 2)(For EU:  $\hat{\beta}$  x 16, grandwire x 1)



5. Install the SDRAM-DIMM [A] to the optional RAM slot [B] on the controller board.



- 6. Through the the I/F harness [A] and the I/F cable [B] as shown red arrow, and connect them to the controller board.
- 7. Attach the ferrite core to the place [C] (EU only).
- 8. Reinstall the controller box cover.



d045i118

9. Install the HDD unit [A] as shown (Knob screw x 4).

- 10. Attach the two clamps to the controller board for step 11.
- 11. Connect the two harnesses to the HDD unit.
- 12. Route the I/F cable [B], and then attach the ferrite core [C] (Ferrite core x 1: For EU only Ferrite core x 3, clamp x 2).

#### Content Important

- Take care not to pinch the I/F harness in the ferrite core.
- 13. Line the I/F harness [D] with the harness clump [E] as shown above.



d045i125

- 14. Insert the DDR-DIMM to the slot [A] on the BICU board.
- 15. Reassemble the FCU bracket or FCU, interface cover and rear cover.
- 16. Plug in and turn on the main power switch.
- 17. Check the HDD operation.

# Copy Data Security Unit Installation

## Accessory Check

No.	Description	Q'ty
1	Copy data security board	1
2	Flat cable (long)	1
3	Screw (M3 x 6)	6
4	Harness (5 pin)	1
5	Harness: Not used in this model.	1
6	Flat cable (short): Not used in this model.	1
7	Bracket: Not used in this model.	1
8	Clamp: Not used in this model.	1



d045i139

## Installation Procedure



1. Remove the rear cover [A] ( $\hat{\mathscr{F}} \times 4$ ).



2. Attach the copy data security unit [A] on the controller box cover ( $\hat{\mathscr{F}} \times 4$ ).

- 3. Connect the harness [B] to the CN132 on the BICU and flat cable [C] to the CN133 on the BICU ( $\bigotimes x 2$ ).
- 4. Reinstall the rear cover ( $\hat{\beta}^2 \times 4$ ).
- 5. Plug in and turn on the main power switch.
- 6. Go into the User Tools mode, and select System Settings > Administrator Tools > Copy Data Security Option > On.
- 7. Exit the User Tools.

# **Optional Counter Interface Unit**

## Installation Procedure

No.	Description	Q′ty
1	Key Counter Interface Board	1
2	Relay Harness	1
3	Screw (M3 x 6)	4
4	Clamp	1
5	Support	4
6	Bandig Band	1



- 1. Remove the rear cover [A] ( $\hat{\beta}$  x 4).
- 2. Cut the place [B] with a nipper.



3. Install the key counter interface board [A] on the rear side of the machine ( $\hat{\not}^2$  x 2).



d045i124a

 Connect one side of the relay harness [A] to the CN753 [B] on the key counter interface board, and connect the other side of the harness [A] to the CN131 [C] on the BICU (<sup>b</sup>→ x 6).



#### d045i124b

5. Route the relay harness as shown above.

#### Note

- The relay harness is a little bit long for this machine. Loop it between two clamps.
- 6. Reassemble the machine.
- 7. Plug in and turn on the main power switch.
- 8. Check the operation.

## **Controller Options**

#### 1

## Overview

This machine has I/F card slots and SD card slots for optional I/F connections and applications.





#### I/F Card Slot

- Slot C is used for one of the optional I/F connections: (IEEE1284, IEEE802.11b (Wireless LAN) or Bluetooth).
- Slot B is used for the USB 1.1 Host.

#### SD Card Slot

- Slot [1] is used for standard printer/scanner application only.
- Slot [2] is used for one of the optional applications such as PostScript3, data overwrite security or PictBridge.
- Slot [3] is used for the Java VM Option or service use.

### PostScript3 Installation

#### Installation Procedure



- 1. Remove the SD card slot cover ( $\hat{\mathscr{F}} \times 1$ ).
- 2. Install the PostScript3 SD card into slot 2.
- 3. Reinstall the SD card slot cover [A] ( $\hat{\mathscr{F}} \times 1$ ).
- 4. Turn on the main power switch.
- 5. Print out the configuration page (User Tools/ Counter > Printer Features > List/ Test Print), and then check that this device is detected.
- 6. Attach the "Adobe PostScript3" decal to the front cover of the machine.

## PictBridge Installation

When you use PictBride, you must install the USB Host (B825).

#### Installation Procedure

- 1. Remove the SD card slot cover [A] ( $\hat{\not{P}} \times 1$ ).
- 2. Install the PictBridge SD card into slot 2.
- 3. Reinstall the SD card slot cover.
- 4. Turn on the main power switch.

5. Print out the configuration page (User Tools/ Counter > Printer Features > List/ Test Print), and then check that this device is detected.



#### Installation Procedure

SD card slot 3 is basically used only for service maintenance. Do not leave an SD card in slot 3 after installing an application.



- 1. Remove slot cover [A] from SD card slot 3 ( $\hat{\beta}^2 \times 1$ ).
- Turn the SD-card [B] label face to the rear of the machine. Then push it slowly into slot 3 until you hear a click.
- 3. Plug in and turn on the main power switch.
- 4. Push the "User Tools" key.
- 5. Push the "Login/ Logout" key.
- 6. Log-in with the administrator user name and password.
- 7. Touch "Extended Feature Settings" on the LCD.
- 8. Touch "Install" on the LCD.
- 9. Touch "SD Card slot 3".
- 10. Touch the "Java TM Platform" line.
- 11. Touch the "SD card ON".
- 12. Touch "Setting".
- 13. Press one of the hard keys, which you want to use for the Java option unit.
- 14. Touch "Execute".

- 15. Touch "OK" after confirming that the installation is correctly done.
- 16. Touch "Exit" twice to go back to the copy screen.
- 17. Turn off the main power switch.
- 18. Remove the SD card from slot 3.
- 19. Attach the slot cover [A] ( $\hat{\mathscr{F}} \times 1$ ).

## Wireless LAN (IEEE 802.11b) Installation

#### **Component Check**

No.	Description	Q′ty
1	Wireless Adapter	1
2	Wireless LAN Card	1
3	LAN Card Cover	4
4	Caution Sheet	1
5	Label	1

#### Installation Procedure

- 1. Remove the interface cover C ( $\hat{\mathscr{F}} \times 2$ ).
- 2. Install the Wireless adaptor ( $\hat{\mathscr{F}} \times 2$ ).
- 3. Install the Wireless LAN card to the wireless adaptor.
- 4. Attach the antenna cap to the wireless LAN card.
- 5. Turn on the main power switch.
- 6. Print out the configuration page (User Tools/Counter > Printer Features > List/Test Print), and then check that this device is detected.

99

## IEEE 1284 Installation

#### **Component Check**

No.	Description	Q′ty
1	IEEE1284 Interface Ass'y	1
2	UL Sheet	1
3	Caution Sheet	1

#### **Installation Procedure**

- 1. Remove the interface cover C ( $\hat{\mathscr{F}} \times 2$ ).
- 2. Install the IEEE 1284 board to the interface slot C ( $\hat{\beta}^2 \times 2$ ).
- 3. Turn on the main power switch.
- 4. Print out the configuration page (User Tools/Counter > Printer Features > List/Test Print), and then check that this device is detected.

## **Bluetooth Installation**

#### **Component Check**

NO.	Description	Qťy
1.	Wireless Adapter	1
2	Bluetooth Card	1
3	Bluetooth Card Adapter	1
4	Bluetooth Card Cover	1
5	UL/FCC Sheet	1
6	Caution Sheet	

#### Installation Procedure

- 1. Remove the interface cover C ( $\hat{\mathscr{F}} \times 2$ ).
- 2. Install the Wireless adaptor to the interface slot C ( $\mathscr{F} \times 2$ ).
- 3. Install the Bluetooth card to the wireless adaptor.
- 4. Attach the antenna cap to the Bluetooth card.
- 5. Turn on the main power switch.
- 6. Print out the configuration page (User Tools/ Counter > Printer Features > List/ Test Print), and then check that this device is detected.

#### **USB Host Installation**

#### **Component Check**

NO.	Description	Qťy
1.	USB Host Interface Ass'y	1
2	USB Cable	1
3	Ferrite Core	1
4	Clamp	1
5	UL Sheet	1

#### **Installation Procedure**

- 1. Remove the interface cover B ( $\hat{P} \times 2$ ).
- 2. Install the USB host board to the interface slot B ( $\hat{\mathscr{F}} \times 2$ ).
- 3. Turn on the main power switch.
- 4. Print out the configuration page (User Tools/ Counter > Printer Features > List/ Test Print), and then check that this device is detected.

#### Data Overwrite Security Unit Type D (B735)

#### **Before You Begin the Procedure**

1. Make sure that the following settings are not at their factory default values:

- Supervisor login password
- Administrator login name
- Administrator login password

#### Vote

- If any of these settings is at a factory default value, tell the customer these settings must be changed before you do the installation procedure.
- 2. Make sure that "Admin. Authentication" is ON.

[System Settings] – [Administrator Tools] – [Administrator Authentication Management] - [Admin. Authentication]

#### Note

- If this setting is OFF, tell the customer this setting must be ON before you do the installation procedure.
- Make sure that "Administrator Tools" is enabled (selected).
   [System Settings] [Administrator Tools] [Administrator Authentication Management] [Available Settings]

#### Note

• If this setting is disabled (not selected), tell the customer this setting must be enabled (selected) before you do the installation procedure.

#### **Component Check**

Check the quantity and condition of these accessories.

NO.	Description	Qt'y
1.	SD Card	1
2	Operating Instructions (CD-ROM)	
3	Caution Sheet	

#### Seal Check and Removal



## 

- You must check the box seals to make sure that they were not removed after the items were sealed in the box at the factory before you do the installation.
- 1. Check the box seals [A] on each corner of the box.
  - Make sure that tape is attached to each corner.
  - The surfaces of the tape must be blank. If you see "VOID" on the tape, do not install the components in the box.
- 2. If the surfaces of the pieces of tape do not show "VOID", remove them from the corners of the box.
- 3. You can see the "VOID" marks [B] when you remove each seal. In this condition, they cannot be attached to the box again.

#### Installation Procedure

## 

• The machine must always be turned off and its power cord disconnected before you do this procedure.

#### Note

You must install the data overwrite protection unit in SD Card slot 2. However, the PostScript option
for this machine is also installed in SD Card slot 2. You must do the SD Card Appli move procedure
first if you have the PostScript option installed and you want to install the Data Overwrite Security unit.
Move the Data Overwriting Security application (slot 3) to the SD Card that contains the Printer/
Scanner application (slot 1).



- 1. Turn off the main power switch if the machine is turned on.
- 2. Disconnect the network cable if the NIB is installed.
- 3. Turn on the main power switch.
- 4. Turn off the operation switch and main power switch.
- 5. Remove the slot cover [A] of SD card slot 2 ( $\hat{\beta}$  x 1).
- 6. Turn the SD-card [B] label face to the rear of the machine. Then push it slowly into slot 2 until you hear a click.
- 7. Connect the network cable if the NIB option is installed.
- 8. Turn on the main power switch.
- 9. Go into the SP mode and push "EXECUTE" with SP5-878.
- 10. Exit the SP mode and turn off the operation switch. Then turn off the main power switch.
- 11. Turn on the machine power.
- 12. Do SP5990-005 (SP print mode Diagnostic Report).
- 13. 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" – "GW2a\_zoffy"

1. Diagnostic Report:	<ol> <li>"ROM No. / Firmware Version" [b]</li> </ol>	1. "Loading Program" <b>[a]</b>
1. Data Overwrite Security Unit	<ol> <li>HDD Format Option:</li> <li>B7355060 / 0.03</li> </ol>	1. GW2a_zoffy: 2. B7355060 / 0.03

#### 🔂 Important

• The ROM number and firmware version number change when the firmware is upgraded. However, the important thing is to make sure the numbers in [a] are the same as the numbers in [b].

If the ROM numbers are not the same, or the version numbers are not the same, this means the unit was not installed correctly.

If this happens:

- Make sure the unit type (Type D).
- If they do not match:
  - ♦ Replace the NV-RAM
  - ♦ Replace the "Data Overwrite Security Unit" (SD card) with the correct type
  - Do the installation procedure in this procedure again, from Step 1.
- 14. Go into the User Tools mode, and select System Settings> Administrator Tools> Auto Erase Memory Setting> On.
- 15. Exit the User Tools mode.

1. Installation Procedure

## **PM Tables**

### **Vote**

- After preventive maintenance work, reset the PM counter corresponding with each PM part.
- PM intervals (70k and 140k) indicate the number of prints.

Key: AN: As necessary, C: Clean, R: Replace, L: Lubricate, I: Inspect

#### Optics

	70k	140k	AN	NOTE
Exposure glass	С	С	С	Blower brush or Dry cloth

#### Engine

	70k	140k	AN	NOTE
Print heads	С		С	Special Cloth with water
Paper transport belt	С	R	С	
Charge roller		R		
Paper-dust Mylar		С	С	
Discharge brush		С	С	
Sub scan encoder		R		

#### Paper Feed

	70k	140k	AN	NOTE
Paper feed roller (each tray)	С	R	С	Clean with water or alcohol.
Friction pad (each tray)	С	R	С	Clean with water or alcohol.
Bottom-plate pad (each tray)	С		С	Clean with water or alcohol.
Paper feed roller (bypass tray)	С		С	Clean with water or alcohol.
Friction pad (bypass tray)	С		С	Clean with water or alcohol.
	70k	140k	AN	NOTE
---------------------------------	-----	------	----	------------------------------
Bottom-plate pad (by-pass tray)	С		С	Clean with water or alcohol.
Registration roller	С		С	Clean with water or alcohol.
Relay rollers	С		С	Clean with water or alcohol.
Paper feed guides	С		С	Clean with water or alcohol.
Paper-dust Mylar	С		С	Clean with water or alcohol.

### Paper Exit

	70k	140k	AN	NOTE
Exit transport rollers	С			

### Maintenance

	70k	140k	AN	NOTE
First cap	С		С	Remove ink with Special cloth (water).
Wiper	С		С	Remove ink with Special cloth (water).
Ink collection bottle		R		
Maintenance unit	С	R		
Ink collection tank	R	R		

## ADF/ARDF

	80k	AN	NOTE
Feed belt	R	С	Clean with water or alcohol.
Separation roller	R	С	Clean with water or alcohol.
Pick-up roller	R	С	Clean with water or alcohol.
Stamp		R	Replace when necessary.
White plate		С	Clean with water or alcohol.
DF exposure glass		С	Clean with water or alcohol.

	80k	AN	NOTE
Platen cover		С	Clean with water or alcohol.

## Paper Tray Unit

	60k	120k	AN	NOTE	
Paper feed rollers		R	С	Dry or damp cloth	
Bottom-plate pads	С		С	Dry cloth	
Paper-feed guides	С		С	Clean with water or alcohol.	
Friction pads		R	С	Dry or damp cloth	
Relay clutch (B384 only)		I			
Feed clutches (B384 only)		I			
Relay roller (B384 only)		С	С	Dry cloth	

## Duplex Unit

	60k	120k	AN	NOTE
All rollers			С	Dry cloth

# **PM Counter**

## How to Reset the PM Counter

After preventive maintenance work, reset the PM counter (SP7-804-002 to 009) as follows.



- 1. Activate the SP mode (see section 5.1).
- 2. Select SP 7-804 ("PM Count. Reset").
- 3. Select the PM counter of what you have replaced.
- 4. Press the OK key [A]. The message "EXECUTE" is displayed.



5. Press the button [B] below the message "EXECUTE." The messages "EXECUTE?" followed by "CANCEL" and "EXECUTE" are displayed.



- 6. Wait until the message "Completed" is displayed.
- 7. Quit the SP mode.

# PM Counter Reset List

The PM counter must be reset after replacing PM parts. The following list shows SP numbers that need to be reset.

PM Parts	SP Number	Remarks
GJ engine	SP7-959-001	This SP clears all SP numbers related with GJ engine. For details, refer to "SP Mode Tables in Service Program Mode".
Maintenance unit	SP7-804-002 • 70K	This SP clears the counter of SP7223-001 to -005 (cleaning total), SP7224-001 to -005 (refreshing total), SP7225-001 to -005 (air releasing and ink filling total) and SP7803-002 (total page).
Charge roller	SP7-804-003 • 140K	This SP clears the counter of SP7803-003 (page total).
Transport belt unit	SP7-804-004 • 70K	This SP clears the counter of SP7803-004 (page total).
Ink collection tank	SP7-804-005	This SP clears the counter of SP7221-001 (total amount), SP7803-005 (total page) and SP7941-001 (total amount).
Flushing gate unit	SP2-505-001	This SP clears the counter of SP7221-002 (total amount).
-	SP2-250-001	This SP is for air flag reset.

# **Cleaning Procedures**

# **Maintenance Unit**

### **Suction Cap**



d045p100

- 1. Remove the maintenance unit. (
  Maintenance Unit" in the section of Replacement and Adjustment)
- 2. Turn the adjuster [A] of the maintenance unit clockwise to raise the suction cap.



d045p101

- 3. Wrap the tip of screwdriver or similar tool [A] with a special cloth.
- 4. Use the wrapped tip of the screwdriver to clean these:
  - Inside the cap

2

• Around the cap to remove hardened ink

#### Contract Important

- Always wrap the tip of the tool with a special cloth. This will prevent the suction cap from getting scratched. A scratched suction cap could cause poor print jobs.
- Be care for not to damage the moisturizer sponge [B] in the suction cap.

#### Air Vent



#### Top view **1** / Bottom view **2**

- 1. Use a screwdriver or similar tool to remove hardend ink inside the air vent as shown above.
- 2. Use a special cloth to remove ink splatter from inside the air vent.

#### Note

- Make sure not to remain ink hardend or ink splatter in side the air vent.
- Be care for not to damage the air vent parts.

#### Wiper



d045p103

- 1. Turn the adjuster clockwise to raise the caps [A] and hold it open. (
  "Suction Cap" in this Section)
- 2. Turn the adjuster again until the wiper [B] is open.
- 3. Use a special cloth (water) to remove ink splatter from the wiper and the area around it.
- 4. Do SP7-804-002 to clear the counter.

# Print Heads

#### Nozzle Cover, Nozzle Plate

Before doing this procedure:

- Provide a delicate material cloth like one used for optical things.
- Put on gloves to avoid any injury due to a metal edge.
- Make sure of the position of the heads (see the picture below), and only clean the affected print head. Do not clean the other print heads.





- 1. Remove the maintenance unit. (
  Maintenance Unit" in the section of Replacement and Adjustment)
- 2. Push the carriage to the home position (completely to the rear).
- 3. Insert your hand into the opening [A] on the rear side of the copier.
- 4. Use the special cloth (water) to clean the nozzle cover [B] of the print heads.
- 5. Use part of the special cloth (water) that is clean to wipe the print head nozzle plate on the face of the print head [C].

#### Coloritant 🔂

- Use each cloth only once.
- Keep the remaining cloth inside the original bag to avoid drying.
- Gently wipe the plate two or three times in the same direction (front to rear) with just enough force to slightly lift the carriage. This will prevent the plate from being damaged. Never clean the plate with a strong front-and-rear motion. A damaged plate could cause poor print jobs.

#### After Cleaning the Maintenance Unit



d045p104

- 1. Do these before you reinstall the maintenance unit:
  - Turn the adjuster [A] clockwise.
  - Lower the suction cap and the wiper blade. Make sure they are secure in the down position.
  - Make sure the triangle marks [B] on the sides of the maintenance unit match. Do this if the tips of the white and black triangle marks are not aligned:
    - Insert the tip of a flat head screwdriver into the adjuster. Then slowly rotate it clockwise until the marks are aligned.

#### After reassembling the copier:

- 1. Plug in and turn on the main power switch of the machine.
- 2. Clean all the print heads with SP2010-001 or "User Tools" > "Maintenance" > "Clean Print-heads".
- 3. Print a Nozzle Check Pattern with SP3109-003 or "User Tools" > "Maintenance" > "Nozzle Check Pattern" to confirm that the printer is operating correctly.
- 4. Check the test pattern. Do the procedure again if you see any bare patches in the pattern.

#### Note

• Do this until the pattern is perfect. For more, see "Troubleshooting" section.

## **Transport Belt**



- 1. Remove the front cover. (see "Front Cover" in Replacement Adjustment)
- 2. Open the inner right cover (Front door > Inner left cover > Inner right cover).
- 3. Use a damp cloth to wipe clean the surface of the transport belt [A]. Then clean the belt with a dry cloth.
- 4. Use the timing belt [B] to rotate the transport belt as you clean. This procedure lets you clean the entire surface of the belt.
- 5. Make sure the surface of the belt is completely dry.
- 6. Do SP7-804-004 to clear the counter.

#### 🔁 Important 🔵

• Water on the surface of the transport belt could interfere with the operation of the printer.

2. Preventive Maintenance

# **General Cautions**

Do not turn off the main switch while any of the electrical components are active. Doing so may result in damage to units as they are pulled out or replaced.

## Scanner Unit

- Use alcohol or glass cleaner to clean the exposure and scanning glass. This will reduce the static charge on the glass.
- Use a blower brush or a water-moistened cotton pad to clean the mirrors and lenses.
- Take care not to bend or crease the exposure lamp's ribbon cable.
- Do not disassemble the lens unit. Doing so will throw the lens and copy image out of focus.
- Do not turn any of the CCD positioning screws. Doing so will throw the CCD out of position.

### Paper feed

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

#### Important

• If the optional tray heater or optics anti-condensation heater is installed, keep the copier's power cord plugged in even while the main switch is off, so that the heater(s) remain energized.

# **Special Tools and Lubricants**

Part Number	Description	Q'ty
B6455010	SD Card	1
B6456705	PCMCIA Card Adapter	1
B6456810	USB Reader/Writer	1
VSSM9000	Digital Multimeter – FLUKE87	1
C4019503	20X Magnification Scope	1
A2579300	Grease Barrierta – S552R	1
52039501	Silicon Grease G-501	1
A0929503	C4 Color Test Chart (3 pcs/set)	1
A2929500	Test Chart – S5S (10 pcs/set)	1
B2299311	Special Cloth (10 sheets.set)	1

# **Exterior Covers**

# Rear Cover



1. Rear cover [A] (🖗 x 4)

# Rear Engine Unit Cover



1. Rear engine unit cover [A] (locking screw x 2)





3

- 1. Top left cover [A] (∦ x 1)
- 2. Left front cover [B] ( x 1)
- 3. Rear cover (🖝 "Rear Cover")
- 4. Interface cover [C] (🖗 x 2)

3

# Right Door



b229r139

- 1. Rear cover (🖝 "Rear Cover")
- 2. Open the right door [A].
- 3. Disconnect three harnesses [B] (堂 x 3).
- 4. Right door belt [C]

# **By-pass Tray**



b229r142

- 1. Right door (🖝 "Right Door")
- 2. Open the by-pass tray [A].
- 3. By-pass tray [A] ( 🕅 x 2, pin x 2)

# Front Cover



- 1. Pull out the paper tray 1.
- 2. Open the right door [A].
- 3. Open the front door [B].

4. Front cover [C] (∦ x 3)

# **Operation Panel**



- 1. Press the "PUSH" bottom [A], and then tilt the operation panel.
- 2. Scanner stay right cover [B] ( $\hat{\mathscr{F}}$  x 1)
- 3. Scanner stay left cover [C] (ℰ x 1)
- 4. Left front cover [D] ( 🕅 x 1)
- 5. Push button [A]



b229r102a

- 6. Disconnect the I/F harness [A] (⇔ x 1).
- 7. Left and right bushing [B] ( $\hat{\mathscr{F}} \times 2 \text{ each}$ )

8. Remove the operation panel [C] pressing the lever [D].

# **Scanner Unit**

## **Exposure Glass**



- 1. Open the ARDF/ADF or platen cover (if it is installed).
- 2. Rear scale [A] (🖗 x 3)
- 3. Left scale [B] with exposure glass [C] ( $\hat{\beta}$  x 2)

#### Vote

- If the platen cover is installed, the left scale [B] is not attached to the exposure glass [C]. Remove them separately.
- 4. DF exposure glass [D] (if ARDF or ADF is installed.)

### Reassembling the exposure glass

When reinstalling, make sure that the mark is at the rear left corner, and that the left edge is aligned to the support on the frame.

## Lens Block

# 

• Do not touch the paint-locked screws on the lens block. The position of the lens assembly (black part) is adjusted before shipment.

• Do not grasp the PCB or the lens assembly when handling the lens block. The lens assembly may slide out of position.



- 1. Exposure glass (🖝 "Exposure Glass")
- 2. Lens cover [A] ( 🕅 x 9)
- 3. Original length sensor bracket [B] ( $\hat{\beta} \ge 1$ ,  $\hat{\boxplus} \ge 1$ )
- 4. Ground cable [C] (𝔅 x 1)
- 5. Lens block [D] (倉 x 4, 町 x 2, 〜 x 2)

### **Vote**

• After installing a new lens block, adjust the image quality (
"Printing" in the Replace and Adjustment).

# Exposure LAMP



1. Remove the ARDF, ADF or platen cover (if it is installed).

- 2. Exposure glass (🖝 "Exposure Glass")
- 3. Scanner stay right cover
- 4. Top right cover [A] (𝔅 x 2)
- 5. Top front left cover
- 6. Interface cover
- 7. Top left cover [B] (∅ x 2)
- 8. Rear cover
- 9. Top rear cover [C] (∦ x 1)
- 10. Scanner top left frame [D] ( $\hat{\beta}^2 \times 2$ )

3



b229r107a

11. Scanner top rear frame [E] (🖗 x 9, 🗊 x 2, 🛱 x 2)



- 12. Slide the first scanner [A] to the cutout of the scanner rear frame with moving the timing belt.
- 13. Disconnect the scanner harness [B] from the lamp stabilizer (🛱 x 2).
- 14. Tension clamp [C] (🖗 x 1)
- 15. Cable holder [D] (hook x 1)
- 16. Press the plastic latch [E] and push the rear end of the lamp toward the front.
- 17. Exposure lamp [F] (with the cable,  ${\textcircled{\baselined Schwarz}}$  x 2,  ${\textcircled{\baselined Schwarz}}$  x 1)

### **Reassembling the Exposure Lamp**

When you reassemble the exposure lamp, run the cable without any slack. Slide the clamp [G] to adjust the cable slack.

## Original WIDTH/Length Sensor



- 1. Exposure glass (🖝 "Exposure Glass")
- 2. Two original width sensors [A] (⊑<sup>1</sup> x 1 each)
- 3. Two original length sensors [B] (⊑<sup>™</sup> x 1 each)

### Scanner Motor

- 1. Rear cover (🖝 "Rear Cover")
- 2. Scanner motor with bracket [A] (ℰ x 2, ⇔ x 2, ⊑ x 1, spring x 1)
- 3. Scanner motor (∦ x 2)

#### Vote

• When reassembling, install the belt first, and set the spring next.

After installing the motor, adjust the image quality (r Copy Adjustments: Printing/Scanning).

# Lamp Stabilizer



1. Lamp stabilizer [A] (⊑<sup>Ш</sup> x 2, locking support x 3)

# Engine

## **Engine Unit**

### **Note**

- Do following procedure, when installing the new engine unit:
- Set all heads air flags to off (for air flag reset) with SP2 250-001.
- Remove the remaining ink with SP2-100-001.



- 1. Remove paper tray 1.
- 2. Open the right door [A].
- 3. Open the front door [B].
- 4. Remove all ink cartridges.
- 5. Front cover [C] ( 🕅 x 4)



3

6. Rear cover [A]



#### d045r146b

7. Pull the two handles [A] out from the machine.



- 8. Disconnect the three harnesses [A].
- 9. Remove two screws and one ground screw (cover x 1).



- 10. Disconnect the harness [A].
- 11. Remove the two screws [B].



d045r102

- 12. Remove four screws.
- 13. Pull the engine unit slowly out.

### ↓ Note

• Make sure that any harness is not attached to the machine before pulling the engine unit.



14. Hold the engine unit as shown, and then remove it from the machine.



15. Pull out the engine unit stay [A] before putting it on a flat place. Otherwise, the ink-supply unit [B] may be damaged.

#### When installing the new engine unit

After installing the new engine unit, do the following procedure.

- 1. Install the ink cartridges provided with new engine unit into the machine.
- 2. Plug in and turn on the main power switch.
- 3. The copier automatically starts to execute air release mode.
- 4. Do SP2-250-001 to set all heads air flags to off (for air flag reset).
- 5. Do SP2-100-001. This takes about 5 minutes.
- 6. Do refreshing with UP or SP2010-002.
- 7. Print out the nozzle check pattern with UP or SP3109-003 and check it out.
- 8. If the printout is not satisfactory, do additional cleaning with UP or SP2010-001
- 9. Do the "GJ Eng Count, Reset" with SP7959-001.

#### Vote

Do the "ExchgCount.Reset" with SP7805-001 in case of EM.

#### Note

Take the ink cartridges used in this procedure back to your service office. (Most of the ink in these
cartridges is consumed by this procedure.

#### C Important

- · Handling with the replaced engine unit
- You need to do the following procedure before transporting the replaced engine unit:
- Lock the carriage unit using the adjuster of the maintenance unit. Make sure that the two triangles do not point to each other (see "Maintenance Unit" in this section).
- Pack the replaced engine unit into the original carton box, in which the new engine unit was packed. This prevents the unit from being damaged.

## **DRV Board**



d045r160

- 1. Engine unit (🖝 Engine unit)
- 2. Drive board [A] (ℰ x 5, 🖼 x 3)

# CONIJ (Connect Ink Jet Module)



d045r103

- 1. Engine unit (🖝 "Engine Unit")
- 2. CONIJ [A] (⋛ x 4, All ຢ⊉)

# **Maintenance Unit**

The maintenance unit is engaged with the carriage unit when the machine is in stand-by status. Lowering the maintenance unit releases the engagement with the carriage unit. So, do this step before removing the maintenance unit.

### **Note**

• Put a few sheets of paper on the floor during servicing. Ink may fall on the floor.



- 1. Rear engine unit cover ( rear Engine Unit Cover")
- 2. Turn the adjuster [A] clockwise with a screwdriver until the two triangles [B] point to each other.

#### Note

- Never turn the adjuster counterclockwise.
- 3. Maintenance unit [C] (ℰ x 2, 🖾 x 2)

#### Note

• Do SP7-804-002 to clear the counter, when replacing the maintenance unit.

# Ink Collection Tank



- 1. Rear engine unit cover (🖝 "Rear Engine Unit Cover")
- 2. Ink collection tank bracket [A] ( $\hat{\beta}$  x 1)



- 3. Pull out the handle [A] from the machine.
- 4. Ink collection tank [B] (⊑<sup>™</sup> x 1)

3

# Sub Scan Encoder and Encoder Sensor

### Comportant 1

• Never touch the rim of the sub scan encoder with bare hands.



- 1. Front cover (🖝 "Front Cover")
- 2. Encoder cover [A] (🖗 x 3)



3. Remove the screw [A] of the encoder sensor bracket, and then slide down the bracket as shown [B]

#### Vote

- Carefully slide down the bracket, (exercising caution not to damage the encoder).
- 4. Remove the spring [C] and screw [D] of the sub scan encoder motor, and then slide up the bracket as shown [E].



- 1. Release the timing belt [A]
- 2. Remove the sub scan encoder [B] (slider clip [C] x 1).

3

- 3. Remove the encoder sensor bracket [D] (⊑ x 1).
- 4. Encoder sensor (∦ x 2)

# Main Scan Drive Motor

1. Engine unit (🖝 "Engine Unit")





d045r511

- 2. Main scan encoder sensor [A] ( $\hat{\mathscr{F}} \times 2$ )
- 3. Main scan encoder





- 4. Tension spring [A]
- 5. Slide the bracket [B] ( $\hat{\beta}^2 \times 1$ ) to the right, and loosen the transfer belt [C].


6. Remove the transfer belt on the right side [A], and the two screws indicated above.



7. Main scan drive motor [A] at front right side of the engine.

### Sub Scan Drive Motor



d045r714

- 1. Engine unit (🖝 "Engine Unit")
- 2. Encoder cover (🖝 "Sub Scan Encoder and Encoder Sensor")
- 3. Sub scan drive motor with the bracket [A] ( $\mathscr{F} \times 2$ ,  $\mathfrak{P} \times 2$ , spring x 1)

### Note

• Make sure that the screw **0** is a step screw when reinstalling.

## **Flushing Gate Unit**



1. Engine unit (🖝 "Engine Unit")

2. Flushing gate unit [A] ( $\hat{\mathscr{F}}$  x 2)

## Transport Belt Unit

#### **Vote**

• During this procedure, do not touch the main scan encoder with your hands.



- 1. Engine unit (🖝 "Engine Unit")
- 2. Engine top cover [A] (∦ x 3)
- 3. Belt cleaning unit [B] (🖗 x 2)
- 4. Flashing unit [C] (⋛ x 2)
- 5. Encoder cover [D] (🖗 x 3)



d045r165

6. Remove the bracket [A] (🖗 x 2).



- 7. Paper guide plate [A] (🖗 x 2)
- 8. Paper guide bracket [B] (🌶 x 2, 🛱 x 4)



d045r153

9. Remove the paper exit sensor [A] (  $\hat{\beta}^2 \ge 1$  , E  $\stackrel{[]}{=} \ge 1$  ).



10. Remove the guide plate [A] with the bracket [B] ( $\hat{\beta}^2 \times 3$ ).

#### Note

- Do not remove the four screws [C] when removing the guide plate.
- 11. Sub scan encoder (🖝 "Sub Scan Encoder and Encoder Sensor")
- 12. Encoder sensor bracket (🖝 "Sub Scan Encoder and Encoder Sensor")
- 13. Timing belt (🖝 "Sub Scan Encoder and Encoder Sensor")



- 14. Turn the lock lever [A] clockwise (as viewed from the front), and then put it inside the frame through the cutout.
- 15. Slide the transport belt unit [B] to the front side, and then remove it as shown above ( $\mathscr{F} \times 2$ ,  $\otimes \times 1$ ,  $\otimes \times 2$ , bushing x 1).



• Do SP7-804-002 to clear the counter, when replacing the transfer belt unit.

## **Charge Roller**

#### **Vote**

• During this procedure, do not touch the main scan encoder with your hands.



- 1. Transport belt unit ( "Flushing Gate Unit")
- 2. Charge roller unit [A] (🖗 x 2)
- 3. Charge roller [B]

#### Note

• Do SP7-804-002 to clear the counter, when replacing the charge roller.

## Power Pack



d045r155

1. Engine unit (🖝 Engine unit)

- 2. Paper guide plate (
  Transport Belt Unit)
- 3. Bracket [A] (🖗 x 2)



d045r156

# **Paper Feed**

## Paper Feed Motor



- b229r128a
- 1. Rear cover (🖝 "Rear Cover")
- 2. Ink collection tank (🖝 "Ink Collection Tank")
- 3. Ink collection tank bracket [A] ( $\hat{\beta}^{i}$  x 3,  $\stackrel{}{\boxminus}$  x 2)



- 4. Feed motor bracket [A] (♂ x 3, 🗊 x 1, ⇔ x 1)
- 5. Feed motor (𝑘 x 2)

## **Registration Motor**



d045r104

- 1. Rear cover (🖝 "Rear Cover")
- 2. Remove the registration motor [A] with bracket ( $\hat{\beta}^{2} \ge 3$ ,  $\exists \Psi \ge 1$ ).

## **Registration Roller**



b229r708a

- 1. Open the right door and release the belt (🖝 "Right Door").
- 2. Front cover ( Front Cover")
- 3. Registration roller gear [A] ( $\bigcirc x 1$ )
- 4. Registration motor (
   Registration motor)



5. Remove the gear [A] ( $\hat{P} \ge 1$ ).



6. Remove the screw [A] and slide the registration guide plate [B] to the arrow direction.



b229r710a

7. Remove the rear side bushing [A].



b229r711a

8. Slide the registration roller [A] to the rear side, and then remove it.





- 1. Rear cover (🖝 "Right Door")
- 2. Disconnect three harnesses and release six clamps. (  ${I\!\!\!\!\!\!\!\!\!\!\!\!\!}^{P}$  x 3,  ${\textstyle \stackrel{()}{\hookrightarrow}}$  x 6)

- 3. Clutch cover bracket [A] ( $\mathscr{F} \times 2$ ,  $\overline{(3)} \times 2$ , bushing x 2)
- 4. Paper feed clutch [B] ( $\overline{(3)} \times 1$ )
- 5. Paper transport clutch [C] ( 🕅 x 1)
- 6. Duplex clutch [D] ( 🕅 x 1)

### Paper Feed roller and Friction Pad



- 1. Remove the paper tray 1.
- 2. Clip [A]
- 3. Push the shaft back through the opening, and tilt it up.

#### Note

- If the black plastic bushing [B] comes off, be sure to remount it when reinstalling the shaft.
- 4. Paper feed roller [C]
- 5. Friction pad [D] (spring x 1)

## Paper End Sensor



b229r137

- 1. Engine unit (🖝 "Engine Unit")
- 2. Remove the paper tray 1.
- 3. Paper end sensor bracket [A] (♂ x 1, 🖽 x 1)
- 4. Paper end sensor [B]

## By-pass Paper Size Switch



- 1. By-pass tray (🖝 "By-pass Tray")
- 2. Tray lever [A] ( 🕅 x 1, pin x 1)
- 3. Turn over the inner tray [B].



4. By-pass paper size switch [A] (𝔅 x 1, 🗊 x 1)

### Note

• When reassembling the by-pass paper size switch, the two mark face each other as shown.

## By-pass Feed Roller and Paper End Sensor



- 1. Open the right door and release the belt (🖝 "Right Door")
- 2. Paper guide [A] (🖗 x 2)
- 3. Friction pad unit [B] (🖗 x 3)
- 4. By-pass feed roller unit [C] (♂ x 3, ⑦ x 1, 🗊 x 1, 🛱 x 4, bushing x 1)



b229r141a

- 5. By-pass feed roller [A]
- 6. By-pass paper end sensor [B]

#### **Registration Sensor**



- 1. Open the right door and release the belt ( right Door").
- 2. Slide the registration guide plate [A] to the rear side, and then remove the registration sensor unit holding it up ( $\hat{\beta}^2 \times 1$ ).
- 3. Sensor cover [B]
- 4. Registration sensor [C] (⊑<sup>™</sup> x 1)

#### Note

• When reassembling, make sure that the spacer [D] is installed on the registration guide plate.

## One-Sheet By-pass Paper End Sensor



- 1. Open the right door.
- 2. Open the multi by-pass tray.
- 3. Open the one-sheet by-pass tray [A].
- 4. Sensor cover [B] (hook x 2)
- 5. One-sheet by-pass paper end sensor [C] (℡ x 1)

## Paper Size Switch



b229r511

- 1. Remove the paper tray 1.
- 2. Paper size switch bracket [A] (斧 x 1, ⊑╝ x 1)
- 3. Paper size switch [B]

# **Paper Exit**

## Paper Exit Tray



- 1. Open the paper exit tray [A].
- 2. Open the front door [B].
- 3. Paper exit tray (pin x 2)

## Paper Exit Unit



b229r133

1. Paper exit tray (🖝 "Paper Exit Tray")

- 2. Top left front cover, left front cover and interface cover (
  "Top Left Front, Left Front and Interface Cover")

## Paper Exit Sensor



- 1. Paper exit unit (🖝 "Paper Exit Unit")
- 2. Guide plate [A] (🖗 x 4)
- 3. Paper exit sensor bracket [B] (∦ x 1, 🖽 x 1)
- 4. Paper exit sensor [C]

## **Junction Gate Sensor**



- 1. Paper exit unit (🖝 "Paper Exit Unit")
- 2. Junction gate sensor bracket [A] at the bottom of the paper exit tray (otin x 1, 
  otin x 1
  otin x 1)
- 3. Junction gate sensor [B]

## **Paper Exit Motor**



b229r136

- 1. Paper exit unit ( rPaper Exit Unit")
- 2. Paper exit motor [A] at the bottom of the paper exit tray (\$\heta x 2, \overline x 2, \overline x 1)

## Engine Sensor



d045r148

- 1. Paper exit unit (🖝 "Paper Exit Unit")
- 1. Engine sensor [A] with bracket [B] (♂ x 1, ⊑ x 1)
- 2. Remove the engine sensor from the bracket.

## System Temperature Sensor



d045r149

- 1. Engine unit (🖝 Engine unit)
- 2. Bracket [A]



3. System temperature sensor [A] (⊑<sup>™</sup> x 1, Support x 1)

# **Electrical Components**

## Controller Box



- 1. Rear cover (🖝 "Rear Cover")
- 2. Interface cover (🖝 "Top Left Front, Left Front and Interface Cover")
- 3. Controller box [A] (\$\$ x 7, ground screw x 2, \$\$\$ x 3)

#### Note

• Remove the HDD unit (if it is installed in the controller unit).

#### Note

• When reassembling the controller box, make sure that the connector of the controller box is firmly connected to the BICU board.

### **Controller Board**

- 1. Rear cover (🖝 "Rear Cover")
- 2. Interface cover (
  Top Lefe Front, Left Front and Interface Cover")



d045i115

1. FCU cover [A] (⋛ x 3)



2. Controller box cover [A] ( ${\ensuremath{\hat{\beta}}}^2$  x 15, ground screw x 2)



- 3. I/F covers [A] (knob screw x 2 each)
- 4. Slot cover ( "Controller Box")
- 5. Remove all the slot cards.
- 6. Remove the three clamps [B]
- 7. Controller board [C] (∦ x 5)

## When replacing the controller board

Remove the two NVRAMs (FRAM) from the old controller board and install them in the same place on the new controller board.

## NVRAM and DIMM RAM



- 1. Rear cover (🖝 "Rear Cover")
- 2. Interface cover (
  Top Lefe Front, Left Front and Interface Cover")
- 3. Controller box cover ( "Controller Board")
- 4. RAM DIMM [A]
- 5. NVRAM [B]



• When you install new NVRAM, install two NVRAMs at the same time even if one NVRAM is not defective.

## IOB Board



d045r158

- 1. Rear cover (🖝 "Rear Cover")
- 2. 10 board bracket [A] (All 🖾, 🖗 x 2, ground screw x 1, 🗟 x 3)
- 3. IO board [B] (⋛ x 6)

## **PSU Board**



- 1. Rear cover (🖝 "Rear Cover")
- 2. Ground cable [A] (𝔅 x 1)
- 3. PSU board [B] (All 🗐, 🖗 x 2)

#### Note

 When reaasembling the PSU board, make sure that the black or brown cord is connected to the terminal [C] and the white or blue cord is connected to terminal [D]. The combination of the cord colors differes dipending on the model destination.

#### **BICU Board**



- 1. Controller box ( rController Board")
- 2. BICU board [A] (All 🗊, 🖗 x 5, flat cable x 1)

Note

• Attach the NVRAM [B] to the new BICU board, when replacing.

#### When installing the new BICU

#### Note

 Make sure you print out the SMC reports ("SP Mode Data" and "Logging Data") before you replace the NVRAM.

## 

 Keep NVRAMs away from any objects that can cause static electricity. Static electricity can damage NVRAM data. 3

- Make sure the NVRAM is correctly installed on the BICU. Insert the NVRAM in the NVRAM slot with the "half-moon" pointing to the downward side.
- Make sure that the DIP-switch settings on the old BICU are the same for the new BICU when. Do not change the DIP switches on the BICU in the field.

#### **NVRAM Replacement Procedure**

#### NVRAM on the BICU

3

- 1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
- 2. Output the SMC data ( SP5-990-001) if possible.
- 3. Turn the main switch off.
- 4. Install an SD card into SD card slot 3. Then turn the main power on.
- 5. Copy the NVRAM data to an SD card (
   SP5-824-001).

#### Important:

If you could not copy the data to the SD card, do the following:

- Set the destination code (SP5-807-001) to your area.
  - 1: NA, 2: EU, 3: Asia, 4: China, 5: Formosa, 6: Korea
- Input the serial number of the new BICU board (SP 5-811-001).
- Input the SP values on the factory SMC sheet attached to the inside of the front door.
- Replace the waste ink tank.

#### Note

- This is necessary because the counter value of the waste ink tank cannot be input.
- 6. Turn off the main switch. Then unplug the power cord.
- 7. Replace the NVRAM on the BICU and reassemble the machine.
- 8. Plug in the power cord. Then turn the main switch on.
- 9. Select a paper-size type ( SP5-131-001).
- 10. Turn the main switch off and on.
- 11. Copy the data from the SD card to the NVRAM (
   SP5-825-001) if you have successfully copied it to the SD card.
- 12. Turn the main switch off. Then remove the SD card from SD card slot 3.
- 13. Turn the main switch on.
- 14. Specify the SP and UP mode settings.
- 15. Do the process control self-check.

#### NVRAM on the Controller

## 

- If you change the NVRAM in the controller, and the Data Overwrite Security unit is installed, this Data Overwrite Security unit must be replaced with a new one.
- 1. Make sure that you have the SMC report (factory settings). This report comes with the machine.
- 2. Output the SMC data ( SP5-990-001) if possible.
- 3. Turn the main switch off. Then put a blank formatted SD card into SD card slot 3.
- 4. Turn the main switch on.
- Copy the NVRAM data (
   SP5-824-001) and the address book data in the HDD (SP5846-051) to an SD card if possible.

#### Note

- An error message shows if local user information cannot be stored in an SD card because the capacity is not enough.
- You cannot do this procedure if the SD card is write-protected.
- 6. Enter SP mode. Then print out the SMC reports (
   SP5-990-001) if possible.
- 7. Turn off the main switch. Then unplug the power cord.
- 8. Replace the NVRAM on the controller. Then reassemble the machine.
- 9. Check if the serial number shows on the operation panel. (SP5-811-002). Input the serial number if it does not show. (Contact your supervisor about this setting.)
- 10. Plug in the power cord. Then turn the main switch on.
- 11. Copy the data from the SD card to the NVRAM (
   SP5-825-001) and HDD (SP5-846-52) if you have successfully copied them to the SD card.

Vote

- The counter data in the user code information clears even if step 11 is done correctly.
- An error message shows if the download is incomplete. However, you can still use the part of the address book data that has already been downloaded in step 11.
- An error message shows when the download data does not exist in the SD card, or, if it is already deleted.
- You cannot do this procedure if the SD card is write-protected.
- 12. Go out of SP mode. Then turn the main switch off. Then remove the SD card from SD card slot 3.
- 13. Turn the main switch on.
- 14. Specify the SP and UP mode settings.

# Image Adjustment

You can do four image adjustment functions as shown below with "Maintenance" in the "User Tools".

- Adjust Paper Feed
- Nozzle Blockage Check
- Adjust Print Head Position
- Registration (Print Start Position)

#### **Preparing for Test Printing**

Make sure A4 or LTR size paper/SEF is loaded in paper tray 1.

Make sure the copier is ready to print.

#### **Adjust Paper Feed**

Print the 'Adjust Paper Feed Test Pattern' and do this adjustment if you see broken horizontal lines or uneven colors in the printouts:

- 1. Enter the UP or SP.
- Do the "Adjust Paper Feed" (User Tools > Maintenance > Adjustment > Adjust Paper Feed) or SP3109-004 to print the test pattern.



3. Examine the test print. Then enter the number of the pattern that shows the best appearance (the horizontal lines should be perfectly flat).

4. Do the instructions on screen to complete the adjustment.

#### Nozzle Blockage Check

One or more of the nozzles is blocked if you see these:

- Broken lines
- Uneven patches of white in the printouts.

At this time, do this procedure:

- 1. Enter the UP or SP.
- Do the "Nozzle Check Pattern" (User Tools > Maintenance > Nozzle Check Pattern) or SP3109-003 to print the test pattern.



- [A]: Normal Pattern Lines are sharp and unbroken.
- [B]: Abnormal Pattern Lines are broken, patches of white spoil the appearance of the pattern.
- Examine the pattern. Then check which color does not show. This information lets you know which nozzle is blocked.
- 4. Do the instructions on the screen to select the color you want to correct. Then clean the print heads.

#### C Important

- Do "Clean Print Heads (Normal)" up to 3 times to correct the problem. Do "Clean Print Heads (Full)" once if the problem stays.
- The "Full" cleaning uses a lot of ink. Do not do the "Full" cleaning until you have done the "Normal" cleaning at least 3 times.
- For more, please refer to Section "4. Troubleshooting".

#### **Adjust Print Head Position**

The print head is out of position if you see these:

- Broken vertical lines
- Smeared or streaked colors

At this time, do this procedure:

- 1. Enter the UP or SP.
- 2. Do the "Head Position Adjust" (User Tools > Maintenance > Adjustment > Head Position Adjust) with UP or "Head Gap Adj. 300 or 1200" with SP3109-001 or -002 to print the test pattern.



- Examine the test print. Then for each row (letters A-I), enter the number of the column that shows the best print alignment (for example "+2" in the above drawing).
- 4. Do the instructions on screen to complete the adjustment.



#### Key:

K1 = Black print head 1

K2 = Black print head 2

C = Cyan print head

M = Magenta print head

Y = Yellow print head

Forward = Scanning direction from rear to front

Reverse = Scanning direction from front to rear

This test grid is made as follows. K1 reverse is the standard for alignment.

- Line A: K1 prints forward, then K1 prints reverse.
- Line B: C prints reverse, then K1 prints reverse.
- Line C: C prints forward, then K1 prints reverse.
- Line D: M prints reverse, then K1 prints reverse.
- Line E: M prints forward, then K1 prints reverse.
- Line F: Y prints reverse, then K1 prints reverse.
- Line G: Y prints forward, then K1 prints reverse.
- Line H: K2 prints reverse, then K1 prints reverse.
- Line I: K2 prints forward, then K1 prints reverse.

#### Registration

1. Enter the UP or SP.

2. Do the "Registration" (User Tools > Maintenance > Adjustment > Registration) or SP3109-005 to print the test pattern.





- 3. Examine the test print. Then enter the numbers of the patterns that show the best appearance for the:
  - Print direction
  - Paper feed direction.
- 4. Do the instructions on screen to complete the adjustment.

# Copy Adjustments: Printing/Scanning

#### **Note**

- You need to perform this adjustment after executing a Memory All Clear, and after replacing or adjusting any of the first or second scanner, lens Block, scanner motor, paper tray or paper side fence.
- For detailesd explanations about how to access and use the SP modes, see Section "Service Program Mode".

#### Printing

#### Note

- Make sure the paper is installed correctly in each paper tray before you start these adjustments.
- Use the Trimming Area Pattern (SP5-902, No.10) to print the test pattern for the printing adjustments below.
- Set SP 5-902 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 each of these registrations using SP1-001.
- 2. Check the side-to-side registration for each paper feed station, and adjust these registrations using SP1-002. (Adjust the trays in order: the 1st tray first, then the 2nd tray, etc.)


Tray	SP mode	Specification	
Any paper tray	SP1-001-1		
By-pass feed	SP1-001-2	2 ±1.5 mm	
Duplex	SP1-001-3		
l st tray	SP1-002-1		
2nd tray (Optional PFU tray 1)	SP1-002-2		
3rd tray (Optional PFU tray 2)	SP1-002-3	2 ±1.5 mm	
By-pass tray	SP1-002-4		
One-sheet by-pass feed	SP1-002-5		
Duplex	SP1-002-6		

A: Leading Edge Registration, B: Trailing Edge Registration

### **Blank Margin**

### Note

- If the leading edge or side-to-side registration cannot be adjusted to within the specification, then adjust the leading-edge blank margin or the left-side blank margin.
- 1. Check the trailing edge and right side edge blank margins, and adjust them using the following SP modes.
- A: Trailing Edge Blank Margin, B: Right Edge Blank Margin
- C: Leading Edge Blank Margin, D: Right Edge Blank Margin



	SP mode	Specification
Trailing edge	SP2-103-2	2 +2.0/ -1.5 mm
Right edge	SP2-103-4	2 ±2.0 mm
Leading edge	SP2-103-1	3.3 +2.7/ -1.3 mm
Left edge	SP2-103-3	2 ±2.0 mm

### Scanning

### **Vote**

- Before doing the following scanner adjustments, check and adjust the printing leading-edge and sideto-side registrations and the printing blank margins (as described above).
- Use an A3 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 as necessary using the following SP modes.



A: Leading Edge Registration, B: Side-to-Side Registration

	SP mode	Specification
Leading edge	SP4-010	0 ±2.0 mm
Side-to-side	SP4-011	0 ±2.5 mm

### Sub-scan Magnification

- 1. Place the OS-A3 test chart on the exposure glass and make a copy from one of the feed stations.
- 2. Check the magnification ratio. If necessary, adjust the magnification using the following SP mode.

	SP mode	Specification
Sub-scan magnification	SP4-008	±1.0%

### **ADF Image Adjustment**

### **Registration and Blank Margin**





A: Leading Edge Registration, B: Side-to-Side Registration

Note

- Make a temporary test chart as shown above, using A3/11" x 17" paper.
- 1. Place the temporary test chart on the ADF and make a copy from one of the feed stations.
- 2. Check the registrations, and adjust as necessary using the appropriate SP modes, as follows.

	SP mode
Side-to-side registration 1st side	SP6-006-1
Leading edge registration	SP6-006-2
Blank margin for the trailing edge	SP6-006-3
Side-to-side registration 2nd side	SP6-006-4

### Sub-scan Magnification



### **Vote**

- Make a temporary test chart as shown above, using A3/11" x 17" 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 if necessary adjust it using SP6-006-005. The specification is  $\pm 1.0\%$ .

# 4. Troubleshooting

## Service Call

### **Service Call Conditions**

There are 4 levels of service call conditions.

Level	Definition	Reset Procedure
A	Fusing unit SCs displayed on the operation panel. The machine is disabled. The user cannot reset the SC.	This level is not used for this machine (D045).
В	SCs to 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 main power switch off and on.
С	SCs that are not shown on the operation panel. They are internally logged.	Logging only
D	The SC is displayed on the operation panel. Turning the operation switch or main power switch off then on resets the SC. The SC is redisplayed if it occurs after the main power switch is turned on again.	Turn the main power switch off and on.

### Note

- If the problem concerns electrical circuit boards, first disconnect, then reconnect the connectors before you replace the PCBs.
- If the problem concerns a motor lock, first check the mechanical load before you replace motors 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.

### When a Level "D" SC code occurs

A screen opens on the operation panel to tell the user that 1) an error occurred, 2) the job that the machine does at that time will be erased, and 3) the machine will reboot automatically after approximately 30 seconds.

The user can: 1) stop until the machine reboots automatically after a short time, or 2) 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 user that 1) the machine reset automatically and 2) the previous job was lost and must be done again. After the user reads the message, the user touches "Confirm" on the screen. The next screen shows the number and title of the SC code, and stops until the user turns the machine off and on.

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.

### 🔁 Important

- Do not try to use the operation panel during an automatic reboot.
- If the Remote Service System is used, the SC code is sent immediately to the Service Center

### 

• 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.

### SC table

### **Engine SC**

SC1xx				
No. Definit	ion	Symptom	Possible Cause/Countermeasure	
101		Exposure lamp error		
		Shading at AGC		
-001	D	The shading data peak does not reach the specified threshold (64/255 digit) when the machine executes the shading at initialization.	<ul> <li>Defective exposure lamp</li> <li>Defective lamp stabilizer</li> <li>Defective exposure lamp harness</li> <li>1. Replace the exposure lamp.</li> <li>2. Replace the lamp stabilizer.</li> <li>3. Replace the exposure lamp harness.</li> </ul>	

No. Definit	ion	Symptom	Possible Cause/Countermeasure
		Shading at scanning	
-002	D	The shading data peak does not reach the specified threshold (64/255 digit) when the machine executes the shading during scanning.	Same as SC101-001
		Scanner home position error 1	
120	D	The scanner home position sensor does not detect the "OFF" condition during operation.	<ul> <li>Defective scanner motor drive board</li> <li>Defective scanner motor</li> <li>Defective home position sensor</li> <li>Defective harness</li> <li>Replace the scanner motor drive board.</li> <li>Replace the scanner motor.</li> <li>Replace the scanner HP sensor.</li> <li>Replace the harness.</li> </ul>
		Scanner home position error 2	
121	D	The scanner home position sensor does not detect the "ON" condition during operation.	Same as SC120
		Black level detection error	
141	D	The black level cannot be adjusted within the target value during the zero clamp after the AGC.	<ul> <li>Defective SBU</li> <li>Defective harness</li> <li>1. Replace the harness.</li> <li>2. Replace the SBU.</li> <li>3. Replace the BICU.</li> </ul>
White level		White level detection error	
142	D	The white level cannot be adjusted within the target value during the zero clamp after the AGC.	<ul> <li>Defective SBU</li> <li>Defective harness</li> <li>Defective optics components</li> <li>1. Replace the exposure lamp.</li> </ul>

No. Definit	ion	Symptom	Possible Cause/Countermeasure
			2. Replace the lamp stabilizer.
			3. Replace the harness.
			4. Replace the SBU
			5. Replace the BICU.
144	SBU	communication error	
		SBU connection error	
			<ul> <li>Insufficient power supply for SBU</li> </ul>
			Defective SBU
-001	D	The SBU connection cannot be detected	Defective harness
		at power on or recovery from the energy	• Defective detection port on the BICU
		save mode.	1. Replace the harness.
			2. Replace the SBU.
			3. Replace the BICU.
		SBU serial communication error	
-002	D	The unusual register value from the SBU is detected more than three times at power on or recovery from the energy save mode.	Same as SC144-001
		GBSBU reset error	
-003	D	The GBSBU cannot be reset at power on or recovery from the energy save mode	Same as SC144-001
		Cannot finish the SBU communication.	
-004	D	The communication between BICU and SBU has not completed.	Same as SC144-001
		SBU communication Error (Version error)	
-005		SBU is incorrect type for this machine.	Replace the SBU
161 -001	D	IPU error	

No. Definit	ion	Symptom	Possible Cause/Countermeasure
		Error condition is detected from self- diagnostic test by the Taurus (ASIC on the BICU).	<ul> <li>Defective BICU</li> <li>Defective connection between BICU and SBU</li> <li>Check the connection between BICU and SBU.</li> </ul>
161 -002	D	ASIC (Taurus) memory error The memory check error of ASIC (Taurus) is detected when a machine turns on or recovers from the energy saver mode.	<ul> <li>Defective BICU (Taurus memory)</li> <li>Unusual power source</li> <li>Replace the BICU.</li> </ul>
165	D	<ul> <li>Copy Data Security Unit error</li> <li>The copy data security board is not detected when the copy data security function is set "ON" with the initial setting.</li> <li>A device check error occurs when the copy data security function is set "ON" with the initial setting.</li> </ul>	<ul> <li>Incorrect installation of the copy data security board</li> <li>Defective copy data security board</li> <li>Reinstall the copy data security board.</li> <li>Replace the copy data security board.</li> </ul>

### SC2xx

No. Definition		Symptom	Possible Cause/Countermeasure
		Maintenance unit home position error	
200	D	<ul> <li>The maintenance unit sensor does not get "OFF" signal after the maintenance unit motor has rotated.</li> <li>The maintenance unit sensor does not get "ON" signal even though the maintenance unit motor has rotated for a certain time when it is assumed that the maintenance unit has to return to the home position.</li> </ul>	<ul> <li>Defective maintenance unit home position sensor</li> <li>Defective maintenance unit drive motor</li> <li>Replace the maintenance unit home position sensor.</li> <li>Replace the maintenance unit drive motor.</li> <li>Replace the maintenance unit.</li> </ul>
202	D	Tank full lever error	

No. Definit	ion	Symptom	Possible Cause/Countermeasure
		<ul> <li>The position of the tank full lever does not stay at the tank full position after ink initialization or air releasing.</li> <li>The position of the tank full lever is not detected at ink suction.</li> </ul>	<ul> <li>Defective tank full sensor</li> <li>Tank full lever bent or broken</li> <li>Incorrect ink suction</li> <li>Check the harness of the tank full sensor.</li> <li>Replace the GJ engine.</li> <li>Replace the maintenance unit.</li> </ul>
		Main scan encoder signal error	
210	D	The input signal from the main scan encoder is not detected during operation of the main scan motor.	<ul> <li>Defective main scan encoder</li> <li>Defective main scan encoder sensor</li> <li>Defective main scan drive motor</li> <li>Replace the main scan encoder.</li> <li>Replace the main scan encoder senor.</li> <li>Replace the main scan drive motor.</li> </ul>
		Main scan encoder error	
211	D	The carriage unit does not stop at home position (rear side) or reverse position (front side).	<ul> <li>Defective main scan drive motor</li> <li>Main scan encoder coming off</li> <li>Defective main scan encoder sensor</li> <li>Replace the main scan drive motor.</li> <li>Reinstall or replace the main scan encoder.</li> <li>Replace the main scan encoder sensor.</li> </ul>

SC5xx

No. Definition		Symptom	Possible Cause/Countermeasure
	С	Tray 2 (optional paper tray unit) feed erro	r
503		<ul> <li>The lift sensor is not activated within 18 seconds twice consecutively</li> </ul>	• Defective or disconnected tray lift motor

4

No. Definition		Symptom	Possible Cause/Countermeasure	
		after the tray lift motor starts lifting the bottom plate. • When the tray lowers, the tray lift sensor does not go off within 1.5 sec twice consecutively.	<ul> <li>Paper or other obstacle trapped between tray and motor</li> <li>Pick-up solenoid disconnected or blocked by an obstacle</li> <li>Reverse connection of harness</li> <li>1. Remove an obstacle.</li> <li>2. Replace the lift sensor.</li> </ul>	
		Tray 3 (optional paper tray unit) feed erro	r	
504	С	<ul> <li>The lift sensor is not activated within 18 seconds twice consecutively after the tray lift motor starts lifting the bottom plate.</li> <li>When the tray lowers, the tray lift sensor does not go off within 1.5 sec twice consecutively.</li> </ul>	<ul> <li>Defective or disconnected tray lift motor</li> <li>Paper or other obstacle trapped between tray and motor</li> <li>Pick-up solenoid disconnected or blocked by an obstacle</li> <li>Reverse connection of harness</li> <li>Check the harness.</li> <li>Remove an obstacle.</li> <li>Replace the lift sensor.</li> </ul>	
	С	Paper feed motor lock error (optional paper tray unit)		
506		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.	<ul> <li>Defective paper feed motor</li> <li>Too much load on the drive mechanism</li> <li>Lessen load.</li> <li>Replace the paper feed motor.</li> </ul>	
		Sub scan motor error		
520	D	The sub scan motor does not reply for 100ms when a machine sends the "stop" command to the sub scan motor.	<ul> <li>Defective sub scan encoder sensor</li> <li>Timing belt of the sub scan encoder has come off.</li> <li>Defective sub scan motor</li> <li>Check the sub scan encoder and timing belt.</li> </ul>	

No. Definition		Symptom	Possible Cause/Countermeasure	
			2. Replace the sub scan encoder sensor.	
			3. Replace the sub scan motor.	
		Charge bias leak		
570	D	High voltage unit sends a signal of charge	Defective charge roller	
		bias leak.	<ul> <li>Defective high voltage unit</li> </ul>	
		Ink head temperature error		
			Disconnect harness	
571	D	The temperature sensor at the ink head detects an unusual temperature for 0.8 seconds.	<ul> <li>Defective temperature sensor at the ink head</li> </ul>	
			1. Check the connector (CN138).	
			<ol><li>Replace the temperature sensor at the ink head.</li></ol>	
	D	Belt temperature error		
		D The temperature sensor at the belt unit detects unusual temperature for 0.8 seconds.	Disconnect harness	
572			<ul> <li>Defective temperature sensor at the ink head</li> </ul>	
			<ol> <li>Check the connector (CN139, CONIJ-CN503 and CN507).</li> </ol>	
				<ol> <li>Replace the temperature sensor at the ink head.</li> </ol>
		Belt temperature and absolute humidity error		
		• The temperature sensor at the belt	Disconnect harness	
573	D than 85°C.	unit detects less than –15°C or more than 85°C.	<ul> <li>Defective temperature sensor at the ink head</li> </ul>	
		• The humidity sensor at the belt unit	1. Check the connector (CN114).	
			detects less than 0% or more than 100%.	<ol> <li>Replace the temperature sensor and/ or humidity sensor at the ink head.</li> </ol>

### SC6xx

No. Definition		Symptom	Possible Cause/Countermeasure	
		Mechanical counter error		
610	D	The machine detects disconnection of a mechanical counter when SP5987-1 is set to "ON".	<ul><li>Disconnected mechanical counter</li><li>1. Connect a mechanical counter.</li></ul>	
		Communication command error between	BICU and ADF	
			• Defective connection between ADF and BICU	
620			Defective ADF	
-001	D	A communication error occurs after the	Defective BICU	
-002		between BICU and ADF.	<ol> <li>Check the connection between ADF and BICU.</li> </ol>	
			2. Replace the ADF.	
			3. Replace the BICU.	
EEPROM Communication Error				
	When machine detects EEPROM communication error, it retries. After retrying and failing five times, an error condition is indicated.		Garbled EEPROM ID data	
			Defective connection	
669			No EEPROM	
			<ul> <li>Abnormal noise</li> </ul>	
			1. Replace the BICU.	
			2. Check the harness.	
			3. Replace the NVRAM.	
-001	D	Device ID error		
-002	D	Channel error (Disconnect bus cable)		
-003	D	Device Error (No ACK)		
-004	D	Interrupted communication		
-005	D	Communication time out		
-006	D	Communication error while offline		

No. Definition		Symptom Po		Possible Cause/Countermeasure	
-007	D	Buffer full			
-008	D	Parameter error			
	GJU	nit Communication Error			
685	Error indicated after five tries following machine- detected error.		wing machine-	<ul> <li>Garbled device ID data</li> <li>Defective connection</li> <li>No IDCHIP</li> <li>Abnormal noise</li> <li>Check the I2C circuit.</li> <li>Replace the GJ unit.</li> <li>Replace the GJ unit IDCHP</li> </ul>	
-001	D	Device ID error			
-002	D	Channel error (Disconnect	bus cable)		
-003	D	Device Error (No ACK)			
-004	D	Interrupted communication			
-005	D	Communication time out			
-006	D	Communication error while	e offline		
-007	D	Buffer full			
-008	D	Parameter error			
	Ink Cartridge Communication Error				
686	Error indicated after five tries following machine- detected error.		wing machine-	<ul> <li>Garbled device ID data</li> <li>Defective connection</li> <li>No IDCHIP</li> <li>Abnormal noise</li> <li>Check the I2C circuit.</li> <li>Replace the ink cartridge.</li> </ul>	
-011	D	Ink cartridge C	Device ID error		

No. Definition		Sympton	ı	Possible Cause/Countermeasure
-012			Channel error ([	Disconnect bus cable)
-013			Device Error (No	o ACK)
-014			Interrupted com	munication
-015			Communication	time out
-016			Communication	error while offline
-017			Buffer full	
-018			Parameter error	
-021			Device ID error	
-022			Channel error ([	Disconnect bus cable)
-023		Ink cartridge M	Device Error (No	o ACK)
-024			Interrupted com	munication
-025			Communication	time out
-026			Communication	error while offline
-027			Buffer full	
-028			Parameter error	
-031			Device ID error	
-032			Channel error ([	Disconnect bus cable)
-033			Device Error (No	o ACK)
-034			Interrupted com	munication
-035		ink cannage f	Communication	time out
-036			Communication	error while offline
-037			Buffer full	
-038			Parameter error	
-041	D	Ink cartridge K	Device ID error	

No. Definition		Symptom		Possible Cause/Countermeasure
-042			Channel error ([	Disconnect bus cable)
-043			Device Error (No ACK)	
-044			Interrupted communication	
-045			Communication time out	
-046			Communication error while offline	
-047			Buffer full	
	D	Memory address command error		
	The BICU does not receive a memory address			Loose connection
				Defective controller
687				Defective BICU
	comn pape	nand from the controller 12 r is in the position for regis	20 seconds after stration.	<ol> <li>Check if the controller is firmly connected to the BICU.</li> </ol>
				2. Replace the controller.
				3. Replace the BICU.

### Controller SC

### SC6xx

No. Definition		Symptom	Possible Cause/Countermeasure
		CSS communication error	
630	С	The machine tries to communicate with one of the terminals of a relevant service center. → An error signal returns.	<ul> <li>Communication error on the public telephone network (logged only; the machine can still operate)</li> </ul>
		MF accounting device error 1	
632	D	The machine sends a data frame. $\rightarrow$ No normal end signal returns. $\rightarrow$ This symptom happens three times.	<ul> <li>Defective or broken line between machine and device</li> </ul>
633	D	MF accounting device error 2	

No. Definition		Symptom	Possible Cause/Countermeasure	
		The machine is communicating with the accounting device. → The break signal returns.	<ul> <li>Defective or broken line between machine and device</li> </ul>	
		MF accounting device error 3		
634	D	A backup RAM error is reported from the accounting device.	<ul><li> Defective accounting device controller</li><li> Defective battery in the accounting</li></ul>	
			device	
		MF accounting device error 4		
635	D	A battery voltage error is reported from the accounting device.	• Defective accounting device controller	
			• Defective battery in the accounting device	
636	SD C	D Card Error		
		Expanded authentication module error		
-001	В	There is no expanded authentication module in the machine. The SD card or the file of the expanded authentication module is broken. There is no DESS module in the machine.	<ol> <li>Install the correct SD card or the file of the expanded authentication module.</li> <li>Install the DESS module.</li> </ol>	
		Version error		
-002	В	The version of the expanded authentication module is not correct.	<ol> <li>Install the correct file of the expanded authentication module.</li> </ol>	
650	Communication error of the remote service modem (Cumin-M)			
		Authentication error		
-001	D	The authentication for the Cumin-M fails at a dial up connection.	<ol> <li>Check and set the correct user name (SP5816-156) and password (SP5816-157).</li> </ol>	
-004	D	Incorrect modem setting		

No. Definition		Symptom	Possible Cause/Countermeasure
		Dial up fails due to the incorrect modem setting.	<ol> <li>Check and set the correct AT command (SP5819-160).</li> </ol>
		Communication line error	
-005	D	The supplied voltage is not sufficient due to the defective communication line or defective connection.	<ol> <li>Consult with the user's local telephone company.</li> </ol>
		Incorrect network setting	
-011	D	Both the NIC and Cumin-M are activated at the same time.	1. Disable the NIC with SP5985-1.
		Modem board error	
-012	D	The modem board does not work properly even though the setting of the modem board is installed with a dial up connection.	<ol> <li>Install the modem board.</li> <li>Check and reset the modem board setting with SP5816.</li> <li>Replace the modem board.</li> </ol>
651	Incorrect dial up connection		
		Program parameter error	
-001	С	The unexpected error occurs when the modem (Cumin-M) tries to call the center with a dial up connection.	• Software bug.
002	C	Program execution error	
-002	C	Same as SC651-001.	• Software bug.
		Engine startup error	
670	D	Just after the main power is turned on or the machine is recovering from auto off mode, the engine ready signal assertion fails. Just after the main power is turned on, the engine does not respond.	<ul> <li>Poor connection between the BICU and controller board</li> <li>Defective BICU</li> <li>Defective controller board</li> </ul>
672	D	Controller-to-operation panel communication error at startup	

No. Definition		Symptom	Possible Cause/Countermeasure
		After powering on the machine, communication between the controller and operation panel does not begin, or the communication is interrupted after a normal startup.	<ul> <li>Controller stalled</li> <li>Controller board installed incorrectly</li> <li>Defective controller board</li> <li>Operation panel connector loose or defective</li> <li>Poor connection of DIMM and optional boards on the controller board</li> <li>Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (ON)".</li> </ul>
		SBU/IPU communication error	
685	D	While data is sent between the scanner and BICU board, a communication error has occurred.	<ul><li>Defective scanner unit cable</li><li>Defective SBU board</li><li>Defective BICU board</li></ul>

### SC8xx

No. Definition		Symptom	Possible Cause/Countermeasure	
		Watchdog error		
818	В	While the system program is running, no	Defective controller board	
		other programs can run (due to a bus	1. Reinstall the system program.	
		hold or endless loop).	2. Replace the controller board.	
819	Kerne	el stop		
	В	Process error		
			Defective RAM DIMM	
		System completely down	• Defective SD card in slot 1	
[0696e]			Defective controller	
			Software error	
			<ol> <li>Check and/or replace the RAM DIMM.</li> </ol>	

			<ol> <li>Check and/or replace the SD card in slot 1.</li> </ol>	
			3. Replace the controller.	
			See <b>NOTE</b> at the end of the SC table.	
		VM full error		
			Defective RAM DIMM	
			• Defective SD card in slot 1	
			Defective controller	
			Software error	
[0/66d]	В	Unexpected system memory size	<ol> <li>Check and/or replace the RAM DIMM.</li> </ol>	
			<ol> <li>Check and/or replace the SD card in slot 1.</li> </ol>	
			3. Replace the controller.	
			See <b>NOTE</b> at the end of the SC table.	
		Cache error		
[4361]	В	Cache error in the CPU	Defective CPU	
			1. Replace the controller board.	
	В	The others		
		B Error in OS	Defective memory	
[]			Defective flash memory	
			Defective CPU	
			1. Replace the controller board.	
	Self-[	Diagnostic Error: CPU	<u></u>	
		[0001-0015] [000A-000D]: Detailed error code		
820			Defective CPU device	
	В	During the boot monitor program and self-diagnostic, any exception or cut-in	<ul> <li>Defective boot monitor program or self-diagnostic program</li> </ul>	
		are not supposed to happen. If these	1. Replace the controller board.	
			2. Reinstall the system firmware.	
	В	[00FF]: Detailed error code	<u> </u>	
		- ·		

	Cache access error in the CPU	<ul> <li>Defective CPU</li> <li>Defective local bus</li> <li>1. Turn the main power switch off and on.</li> <li>2. Reinstall the system program.</li> <li>3. Replace the controller board.</li> </ul>	
	[0601, 0602, 0605, 0606, 0607, 060	09]: Detailed error code	
В	Exceptional command does not operate even though it is executed on purpose.	<ul><li>Defective CPU devices</li><li>1. Replace the controller board.</li></ul>	
	[060A-060E]: Detailed error code		
В	Cut-in command does not operate when it is executed.	<ul> <li>Defective CPU devices</li> <li>Defective ASIC devices</li> <li>1. Replace the controller board.</li> </ul>	
	[0610]: Detailed error code		
В	Timer cut-in does not operate even though it is set.	<ul><li>Defective CPU devices</li><li>1. Replace the controller board.</li></ul>	
	[0612]: Detailed error code		
В	Cut-in ASIC occurs.	<ul> <li>Defective ASIC</li> <li>Defective devices in which ASIC detects cut-in.</li> <li>1. Replace the controller board.</li> </ul>	
	[06FF]: Detailed error code		
В	The pipeline clock frequency rate is different from the prescribed value.	<ul> <li>Defective CPU devices</li> <li>Mode bit data error, which is used for initializing CPU.</li> <li>1. Replace the controller board.</li> </ul>	
	[0702]: Detailed error code		
В	The result when the program is executed in the command cache is different from desirable value.	<ul> <li>Insufficient CPU cache</li> <li>Insufficient memory process speed</li> <li>1. Replace the controller board.</li> </ul>	

			2. Replace the RAM DIMM.	
		[0709, 070A]: Detailed error code		
	В	Even you write the data in the only cache of memory, the data is actually written in another area (not cache) of memory.	<ul> <li>Defective CPU devices</li> <li>Incorrect SPD</li> <li>Boot mode setting error</li> <li>Replace the controller board.</li> <li>Replace the RAM DIMM.</li> </ul>	
		[0801, 0804, 0807, 0808, 0809, 804	A]: Detailed error code	
	В	An error occurs when checking the TLB.	<ul><li>Defective CPU devices</li><li>1. Replace the controller board.</li></ul>	
		[4002-4005]: Detailed error code		
	В	The calculation error in the CPU occurs.	<ul><li>Defective CPU</li><li>1. Replace the CPU.</li></ul>	
821	Self-[	Diagnostic Error: ASIC		
	В	ASIC error		
[OBOO]		The write-&-verify check error has occurred in the ASIC.	<ul><li>Defective controller board</li><li>1. Replace the controller.</li></ul>	
		ASIC not detected		
[OBO6]	В	The ASIC of the I/O is not detected.	<ul> <li>ASIC (controller board defective)</li> <li>Poor connection between North Bridge and PCI I/F.</li> <li>Replace controller board.</li> </ul>	
		SHM register check error		
[OB10]	В	Failed to initialize or could not read connection bus. Data in SHM register incorrect.	<ul> <li>Defective bus connection</li> <li>Defective SHM</li> <li>Replace controller board.</li> </ul>	
		Timer error between ASIC and CPU		
[0D05]	В	The CPU checks if the ASIC timer works properly compared with the CPU timer. If the ASIC timer does not function in the	<ul><li>System firmware problem</li><li>Defective RAM-DIMM</li></ul>	

			Defective controller	
		specified range, this SC code is displayed.	<ul> <li>Reinstall the controller system firmware.</li> </ul>	
			1. Replace the RAM-DIMM.	
			2. Replace the controller board.	
822	Self-[	Diagnostic Error: HDD		
		Timeout error/ [3004]: Command error		
			Loose connection	
			Defective HDD	
[3003]:	В	When the main switch is turned on or	Defective controller	
[0000].		starting the self-diagnostic, the HDD stays busy for the specified time or more.	<ol> <li>Check that the HDD is correctly connected to the controller.</li> </ol>	
			2. Replace the HDD.	
			3. Replace the controller.	
823	Self-c	diagnostic Error: NIB		
	В	MAC address check sum error		
[6101]		The result of the MAC address check sum does not match the check sum stored in ROM.	Defective controller	
			1. Replace the controller.	
		PHY IC error		
[6104]	В	The PHY IC on the controller cannot be correctly recognized.	Same as SC823-[6101]	
		PHY IC loop-back error		
[6105]	В	An error occurred during the loop-back test for the PHY IC on the controller.	Same as SC823-[6101]	
		Self-diagnostic Error: NVRAM		
824	В	The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.	<ul> <li>NVRAM damaged or abnormal</li> <li>Backup battery has discharged</li> <li>NVRAM socket damaged</li> <li>Replace the NVRAM.</li> </ul>	
826	В	Self-diagnostic Error: RTC/Optional NVRAM		

		[1501]: Clock error		
		<ul> <li>An RTC device is recognized, and the difference between the RTC device and the CPU exceeds the defined limit.</li> <li>No RTC device is recognized.</li> </ul>	<ul> <li>RTC defective</li> <li>NVRAM without RTC installed</li> <li>Backup battery discharged</li> <li>Replace the NVRAM with another NVRAM with an RTC device.</li> </ul>	
		[15FF]: RTC not detected		
	В	The RTC device is not detected.	<ul> <li>NVRAM without RTC installed</li> <li>Backup battery discharged</li> <li>Replace the NVRAM with another NVRAM with an RTC device.</li> </ul>	
827	Self-c	Jiagnostic Error: RAM		
		Verification error		
[0201]	В	Error is detected during a write/verify check for the standard RAM (SDRAM DIMM).	<ul> <li>Loose connection</li> <li>Defective SDRAM DIMM</li> <li>Defective controller</li> <li>Replace the SDRAM DIMM.</li> <li>Replace the controller.</li> </ul>	
		Resident memory error		
[0202]	В	The SPD values in all RAM DIMM are incorrect or unreadable.	<ul> <li>Defective RAM DIMM</li> <li>Defective SPD ROM on RAM DIMM</li> <li>Defective 12C bus</li> <li>Replace the RAM DIMM.</li> </ul>	
828	Self-c	diagnostic Error: ROM		
[0101]	В	Boost lap code error 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.	<ul> <li>Defective ROM DIMM</li> <li>Defective controller</li> <li>1. Replace the ROM DIMM.</li> <li>2. Replace the controller.</li> </ul>	
[0104]	В	ROMFS error		

		All areas of the ROM DIMM are checked. If the check sum of all programs stored in the ROM DIMM is incorrect, this SC code is displayed.	<ul><li>Defective ROM DIMM</li><li>1. Replace the ROM DIMM.</li></ul>	
829	Self-o	diagnostic Error: Optional RAM		
		Verification error (Slot 1)		
[0401]	В	The data stored in the RAM in Slot 1 does not match the data when reading.	<ul> <li>Not specified RAM DIMM installed</li> <li>Defective RAM DIMM</li> <li>1. Replace the RAM DIMM.</li> <li>2. Replace the controller board.</li> </ul>	
		Composition error (Slot 1)		
[0402]	В	The result of checking the composition data of the RAM in Slot 1 on the controller is incorrect.	<ul> <li>Not specified RAM DIMM installed</li> <li>Defective RAM DIMM</li> <li>1. Replace the RAM DIMM.</li> <li>2. Replace the controller board.</li> </ul>	
		Self-diagnostic Error: Clock Generator		
838	В	Verify error occurred when setting data was read from the clock generator via the I2C bus	<ul> <li>Clock generator abnormal</li> <li>I2C bus abnormal</li> <li>CPU port for the I2C bus abnormal</li> </ul>	
		IEEE1394 I/F abnormal		
851	В	The IEEE1394 interface cannot be used, due to a driver error.	<ul><li>IEEE1394 interface board defective</li><li>Defective controller board</li></ul>	
		Wireless card startup error		
853	В	The machine starts up. → The IEEE802 1 1 b card connection board is recognized. → The wireless LAN card or bluetooth card is not recognized.	<ul> <li>Loose connection between the card and the connection board</li> </ul>	
		Wireless card access error		
854	В	The machine has been reading the data from the card. → The machine loses access to the card; the wireless LAN	<ul> <li>Loose connection between the card and the connection board</li> </ul>	

		card or bluetooth card connection board is still recognized.		
0.5.5		Wireless card error		
800	В	Some illegal data is found in the card.	Defective card	
		Wireless card connection board error		
856	В	An error is detected in the wireless LAN card or bluetooth card connection board.	• Defective card connection board	
		USB I/F Error		
			Defective controller	
857	В	USB interface error is detected.	<ol> <li>Check the USB connections, and make sure that they are securely connected.</li> </ol>	
			2. Replace the controller board.	
		HDD startup error at main power on		
	В		No formatted HDD	
860		HDD is connected but a driver error is detected.	<ul> <li>Label name input during formatting is corrupted.</li> </ul>	
		The driver does not respond with the status of the HDD within 30 s.	Defective HDD	
			1. Reformat the HDD.	
			2. Replace the HDD.	
		HDD reboot error		
			Loose connection	
			Defective cables	
			Defective HDD	
861	D	The HDD does not become ready within	Defective controller	
		30 seconds after the power is supplied to the HDD.	<ol> <li>Check the connection between the HDD and controller.</li> </ol>	
			2. Check and replace the cables.	
			3. Replace the HDD.	
			4. Replace the controller.	

		HDD read error		
			• Bad sector detected during operation of the HDD	
			Defective HDD	
			Defective controller	
863	D	The data stored in the HDD cannot be	1. Reformat the HDD.	
		read correctly.	<ol> <li>Replace the HDD when SC863 occurs more than ten times or it takes more than twenty seconds to get ready condition.</li> </ol>	
			3. Replace the controller board.	
		HD data CRC error		
864	D	While reading data from the HDD or storing data in the HDD, data transmission fails.	• Defective HDD	
	D	HD access error		
865		An error other than SC863 and SC864 is detected while operating the HDD.	Defective HDD	
	В	SD card authentication error		
866		A digital license error of an SD card	• SD card data has corrupted.	
		application is detected.	1. Store correct data in the SD card.	
		SD card error		
867	D	An application SD card is removed from the boot slot while an application is activated.	• An application SD card is ejected.	
		SD card access error		
		(-13 to -3: File system error, other number: Device error)		
			• SD card not inserted correctly	
868	D	An error report is sent from the SD card	• SD card defective	
		reader.	Controller board defective	
			<ol> <li>For a file system error, format the SD card on PC.</li> </ol>	

			<ol> <li>For a device error, turn the main switch off and on.</li> </ol>
			3. Remove and re-install the SD card.
			4. Replace the SD card.
			5. Replace the controller.
		Address book data error	
870	В	<ul> <li>The address book in the hard disk is accessed. → An error is detected in the address book data; address book data is not read; or data is not written into the address book</li> <li>Note</li> <li>To recover from the error, do any of the following countermeasures:</li> <li>Format the address book by using SP5-846-050 (all data in the address book-including the user codes and counters – is initialized).</li> </ul>	<ul> <li>Data corruption</li> <li>Defective hard disk</li> <li>Defective controller software</li> <li>Replace the hard disk (the user codes and counters are recovered when the main switch is turned on if those data are stored in Smart Device Monitor for Admin).</li> </ul>
		HDD received mail data error	
872	В	An error is detected in the received mail data partition of the HDD at machine initialization.	<ul> <li>Defective HDD</li> <li>Power failure during an access to the HDD</li> <li>Initialize the HDD partition (SP5-832-007).</li> <li>Replace the HDD.</li> </ul>
		HDD sent mail data error	
873	В	An error is detected in the sent mail data partition of the HDD at machine initialization.	<ul> <li>Defective HDD</li> <li>Power failure during an access to the HDD</li> <li>1. Initialize the HDD partition (SP5-832-008).</li> <li>2. Replace the HDD.</li> </ul>
874	D	Delete All error 1: HDD	

		An error is detected while the all data of the HDD or NVRAM are formatted physically by the Data Overwrite Security Unit (B735).	<ul> <li>Not installed Data Overwrite Security Unit (SD card)</li> <li>Defective HDD</li> <li>Install the Data Overwrite Security Unit (B735).</li> <li>Replace the HDD.</li> </ul>
		Delete All error 2: Data area	
875	D	An error is detected while the all data of the HDD or NVRAM are formatted logically by the Data Overwrite Security Unit (B735).	<ul> <li>The logical format for HDD fails.</li> <li>1. Turn the main switch off/on and try the operation again.</li> </ul>
876	Log [	Data Error	
		Log Data Error 1	
-001	D	An error was detected in the handling of the log data at power on or during machine operation. This can be caused by switching the machine off while it is operating.	<ul> <li>Damaged log data file in the HDD</li> <li>1. Initialize the HDD with SP5832-004.</li> </ul>
		Log Data Error 2	
-002	D	Same as -001	<ul><li>An encryption module not installed</li><li>1. Disable the log encryption setting.</li><li>2. Install the encryption module.</li></ul>
		Log Data Error 3	
-003	D	Same as -001	<ul> <li>Invalid encryption key log due to defective NVRAM data</li> <li>1. Initialize the HDD with SP5832-004.</li> <li>2. Disable the log encryption setting.</li> </ul>
		Log Data Error 4	
-004	D	Same as -001	<ul> <li>Unusual encryption function log due to the defective NVRAM data</li> <li>1. Initialize the HDD with SP5832-004.</li> </ul>
-005	D	Log Data Error 5	

			<ul> <li>Installed NVRAM or HDD, which is used in other machine</li> </ul>	
		Same as -001	<ol> <li>Reinstall the previous NVRAM or HDD.</li> </ol>	
			2. Initialize the HDD with SP5832-004.	
		Log Data Error 99		
-099	D	Same as -001	• Other than above causes	
			1. Ask your supervisor.	
	В	HDD Data Overwrite Security SD card error		
		B The all delete cannot be executed even though the Data Overwrite Security Unit (B735) is installed and activated.	• Defective SD card (B735)	
077			<ul> <li>Not installed SD card (B735)</li> </ul>	
8//			<ol> <li>Replace the NVRAM and then install the new SD card (B735).</li> </ol>	
			<ol> <li>Check and reinstall the SD card (B735).</li> </ol>	
880		File Format Converter (MLB) error		
	D	A request to get access to the MLB was not answered within the specified time.	• MLB defective	

### SC9xx

900	D	Electronic total counter error		
		The value of the total counter is out of the normal range.	Defective NVRAM	
920	В	Printer error		
		An application error that stops the machine operation is detected.	<ul> <li>Defective software</li> <li>1. Unexpected hardware resource (e.g., memory shortage)</li> </ul>	
		Printer font error		
921	В	A necessary font is not found in the SD card when the printer application starts.	<ul> <li>A necessary font is not found in the SD card.</li> <li>The SD card data is corrupted.</li> </ul>	

			<ol> <li>Check that the SD card stores correct data.</li> </ol>	
	D	Net file error		
925		The management file for net files is corrupted; net files are not normally read. <b>Netfiles:</b> Jobs to be printed from the document server using a PC and the DeskTopBinder software	Defective hard disk	
			Data corruption	
			Defective software	
			<ol> <li>When SC860 to 865 occurs with this SC at the same time:</li> </ol>	
			• The main cause is in SC860 to 865. Refer to those possible causes.	
			2. When only SC925 occurs:	
			<ul> <li>Initialize the net file partition of the HDD (with SP5-832-11) after you ask the customer for permission. This also erases the transmitted and received fax documents.</li> </ul>	
			<ul> <li>If the above actions do not solve the problem, try to initialize all partitions of the HDD with SP5-832-1 after you ask the customer for permission.</li> <li>Replace the HDD</li> </ul>	
	В	Software performance error		
990		The software attempted to perform an unexpected operation.		
		<b>NOTE:</b> When this error occurs, the file name, address, and data will be stored in NVRAM. This information can be checked by using SP7-403. See the data and the situation in which this SC occurs. Then report the data and conditions to your technical control center.	<ul> <li>Software defective</li> <li>Internal parameter incorrect</li> <li>Insufficient working memory</li> </ul>	
991	С	Software continuity error		

		The software attempted to perform an unexpected operation. However, unlike SC990, the process can keep on running.	<ul> <li>Logged only; the machine can continue to operate</li> </ul>	
992	D	Undefined error		
		An error not controlled by the system occurred (the error does not come under any other SC code).	• Defective software program	
997	В	Application function selection error		
		The application selected by a key press on the operation panel does not start or ends abnormally.	• Software for that application is defective	
			• An option required by the application (RAM, DIMM, board) is not installed.	
			<ul> <li>Too complicated nest of the fax group address</li> </ul>	
			<ol> <li>As for the fax operation problem, simplify the nest of the fax group address.</li> </ol>	
998	D	Application start error		
		After switching the machine on, the application does not start within 60 s. (No applications start or end normally.)	• Software for that application is defective	
			<ul> <li>An option required by the application (RAM, DIMM, board) is not installed.</li> </ul>	
			<ol> <li>Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (OFF)".</li> </ol>	

## **General Troubleshooting**

### High Frequency Nozzle Blocking

Repeat nozzle blocking in spite of performing the cleaning head1 or cleaning head2.

### Possible Cause:

• Dryness of print heads

#### Action:

- 1. Do SP2-509-001 to 002 (Adjustment for interval between ink exhalation (during printing) between pages).
  - Decrease the pages interval (during printing).
  - Select SP value "1" which performs large quantity ink exhalation than value "0".
- 2. Do SP2-2514-001 (Automatic cleaning frequency).
  - When ink ejection is done to some degree, an automatic cleaning begine.
- 3. Do SP2-513-001 to 003 (Idle maintenance time)
  - Sets the idle maintenance time in moderation.

Note

• A large quantity of ink is consumed, if the number of cleaning become increasing.

### Nozzle Block Check

### **Preparing for Test Printing**

- 1. Make sure A4 size or LTR SEF size paper is loaded in the standard tray.
- 2. Make sure the copier is ready to print (the [Power] key is on).

### **Entering the User Tools**

- 1. Press the "User Tools" button to enter the UP mode.
- 2. Select "Maintenance".

### Cleaning head 1

1. Select "Clean Print-heads" (User Tools > Maintenance > Clean Print-heads), and then press the "OK" button.

4

2. Select the five print-heads to be cleaned with left or right arrow button. (You can cancel it also pressing the left or right arrow button again.)

#### Note

- You can select multiple print-heads in this cleaning. If the print-head is selected for this cleaning, the checked mark shows at left next to the print-head name.
- 3. Press "OK" button, and then "Are you sure you want to start head cleaning?" message shows on the display.
- 4. Press "Yes" button to execute the cleaning.
- 5. After cleaning, "Cleaning complete" message shows on the display.
- 6. Press "Exit" button and follow the instruction on the display.

#### Vote

- Wait for cleaning to finish. Never do any other operation at the time of cleaning.
- Check the results of the nozzle check pattern. Examine which nozzles need cleaning.
- Do the "Nozzle Check Pattern", after let stand for 10minutes.
- Do Steps 1 to 6 again. You can do this up to three times.
- Do Cleaning head 2 after the third printing of the test problem if the pattern is still not correct.

### Cleaning Head 2

Cleaning head 2 uses a lot of ink. Do Cleaning Head 1 at least 3 times before you do Cleaning Head 2.

- 1. Select "Flush Print-heads" (User Tools > Maintenance > Flush Print-heads), and then press the "OK" button.
- 2. Select the five print-heads to be cleaned with left or right arrow button. (You can cancel it also pressing the left or right arrow button again.)

🕗 Note

- You can select multiple print-heads in this cleaning. If the print-head is selected for this cleaning, the checked mark shows at left next to the print-head name.
- Press "OK" button, and then "This function consumes a large quantity of ink. Do you want to continue?" message shows on the display.
- 4. Press "Yes" button to execute the cleaning.
- 5. After flushing, "Flushing complete" message shows on the display.
- 6. Press "Exit" button and follow the instruction on the display.

#### 🕓 Note

Wait for cleaning to finish. Never do any other operation at the time of cleaning. Check the
results of the nozzle check pattern after completing this function.



<Corresponding procedure for nozzle blockage>

### **Remaining Problems**

1. Do SP2-101-001 to 005: Executes the head cleaning for each printer head (Special Cleaning).

#### Note

• Do not use customer's ink for this mode, because this mode consumes a large quantity of ink.
2. If a problem is still remaining, wipe the nozzle surface with a special cloth. (For details, refer to the "Cleaning Procedure" in the "Preventive Maintenance" on the Service manual.)

#### Note

- Use water; Never use alcohol or dry cloth for wiping the nozzle surface.
- 3. Clean the maintenance unit.
- 4. Replace the Engine unit.
- 5. Print the nozzle check pattern using UP mode again, and then check the results of the test pattern
- 6. If a problem is still remaining, replace the engine unit.

### **Banding/Thin Horizontal Line**

### A White (Or Black) Line With 32 mm Interval with 1 Pass, 1/1 Interlace Print Mode

Print mode: Plain paper – B/W copy, Plain paper – B/W Normal mode print, Speed mode print.

#### Possible Cause/Need to Confirm:

• Nozzle blockage or paper feed error

#### Action:

4

- 1. Do head cleaning/flashing.)
- 2. Adjusts paper feed.

# Two White (Or Black) Line With 32 mm Interval (Interval between Two Thin Lines Are 0.3 mm) With1 Pass, 1/2 Interlace Print Mode

Print mode: Plain paper - Color copy, Plain paper - Color Normal mode print

### Possible Cause/Need to Confirm:

Nozzle blockage

#### Action:

1. Do head cleaning/flushing.

### A 0.3mm Width of Pale Line With 32mm Interval With 1 Pass, 1/2 Interlace Print Mode

Print mode: Plain paper - Color copy, Plain paper - Color Normal mode print

### Possible Cause/Need to Confirm:

• Paper feed error

#### Action:

1. Do paper feed adjustment.

### A Pale or Dark Line With 8 mm Interval With 2 Pass, 1/2 Interlace Print Mode

Print mode: InkJet Plain paper - B&W/Color copy, InkJet Plain paper - Normal mode print

### Possible Cause/Need to Confirm:

• Paper feed error

### Action:

1. Do paper feed adjustment.

### A 8 Mm Width of Pale Band (Uneven Density of Band) Repeatedly With 2 Pass, 1/2 Interlace Print Mode

Print mode: InkJet Plain paper - B&W/Color copy, InkJet Plain paper - Normal mode print

### Possible Cause/Need to Confirm:

• Nozzle blockage

### Action:

1. Do head cleaning/flushing.

### A Pale or Dark Line With 4 mm Interval With 4 Pass, 1/2 Interlace Print Mode

### Possible Cause:

• Paper feed error

### Action:

1. Do paper feed adjustment.

4

### Vertical Ruled Line Error

### Fainted Vertical Ruled Line



### d045d901

- [A]: Ideal adjustment line
- [B]: Actual adjustment line
- [C]: 42um is the minimum adjustable interval.

### Possible Cause:

• Gap between K1 head position and K2 head position

### Action:

Do head position adjustment ( p.176 "Adjust Print Head Position")

### Shifted Vertical Ruled Line



d045d902

### Possible Cause:

• Scanning position gap between each carriage scanning

#### Action:

Execute "Head:Gap Adj 1200:Ruled line" with SP3-002-041.

- 1. Enter the UP or SP.
- Do the "Head Position Adjust" (User Tools > Maintenance > Adjustment > Head Position Adjust) with UP or "Head Gap Adj. 300 or 1200" with SP3109-001 or -002 to print the test pattern.
- 3. Examine the ruled lines at "H-0" and "I-0" on the test print.
- 4. Enter the SP3-002-041, and then adjust the shifted ruled lines.
  - Shifted as shown [A]: Input "- (minus)" value in SP3-002-041.
  - Shifted as shown [B]: Input "+ (plus)" value in SP3-002-041.

### **Poor Quality Image**

### Colors Not What You Expect:

### Possible Cause/Need to Confirm:

- The correct paper was not used for the print job, or the paper was not loaded correctly.
- The print mode selection was not correct.
- Job settings in the software application are not correct.

4

• One or more print heads are blocked.

#### Action:

- 1. Check the selection for the type of paper in the printer driver (transparency, ink jet, plain paper, etc.). Confirm that the same type of paper is loaded correctly in the printer.
- 2. Make sure that the print mode selection in the printer software application and the printer driver is correct (Paper Type, Print Quality, Level Color, etc.)
- 3. Check the settings for the print job in the software application. The settings in the software application have priority over the printer driver settings.
- 4. Do cleaning head 1 and then Cleaning Head 2.

### Colors Faint

4

### Possible Cause/Need to Confirm:

- The correct paper was not used for the print job.
- The print mode selection was not correct.
- One or more print heads are print job.

#### Action:

- 1. Check the selection for the type of paper in the driver (transparency, ink jet, plain paper, etc.). Confirm that the same type of the paper is loaded in the printer.
- 2. Make sure that the print mode selection in the printer software application and the printer driver is correct (Paper type, Print Quantity, Level Color, etc).
- 3. Do cleaning Head 1 and then Cleaning Head 2.

### **Color Print Job Prints in Monochrome**

#### Possible Cause/Need to Confirm:

- Black and White was selected for the print job.
- Correct data not selected for the print job.

#### Action:

- On the "Setup" sheet of the printer driver, make sure "Color" is selected under "Color/Black and White".
- 2. Confirm that the software application printed the correct data.

### White Patches, or Horizontal White Lines

### Possible Cause/Need to Confirm:

• Original image abnormal.

• One or more print heads are blocked.

### Action:

- 1. In the software application, check the original image for streaking (especially at borders between different colors). Correct the original image.
- 2. Do cleaning Head 1 and then Cleaning Head 2.

### Vertical White Lines

### Possible Cause/Need to Confirm:

• Solid or intermittent white lines from the top to the bottom of the sheet caused by a blocked ink nozzle.

### Action:

1. Do cleaning Head 1 once.

### Image Chaffed in Horizontal Direction

### Possible Cause/Need to Confirm:

• Solid or intermittent white lines from edge to edge of the sheet caused by a blocked ink nozzle.

#### Action:

1. Do cleaning Head 1 once.

### Only 1 Line Printed at Leading Edge

### Possible Cause/Need to Confirm:

- Paper with punched holes, or thin or slick paper with too much "play" was used that allowed slippage during feed.
- Paper is jammed or slipping on the transport belt due to the accumulation of paper dust, etc. on the belt.

### Action:

- 1. Check the paper used for the print job and make sure that it meets standards for use with this printer. For more see the Operating Instructions or the last section "Specifications" of the Service Manual.
- 2. Clean accumulated paper dust of the transport belt. And so on.

### **Unwanted Dots**

### Possible Cause/Need to Confirm:

• Flakes of paper dust or dry ink have fallen onto the printed sheet.

### Action:

- 1. Do cleaning Head 1 once. Operator should call for service if cleaning does not solve the problem.
- 2. Clean the Maintenance unit.
- 3. Clean the head surface with the special cloth.
- 4. Replace the engine unit.

### **Text Dirty**

### Possible Cause/Need to Confirm:

- Print job was not set up correctly for special print media.
- The sheets are not flat or are deformed in some way.
- One or more print heads are blocked.

#### Action:

4

- Special procedures are necessary to set up print jobs for special print media such as postcards, envelopes, and transparencies. Review and carefully follow the instructions in the Operating Instructions. Pay special attention to these settings "Paper Type", "Job Type", and "Print Quality".
- Make sure the sheets are perfectly flat (especially envelopes, postcards). Make sure the sheets neither curled nor deformed in any way. If using thick or any type of coated paper, make sure that the paper is approved for use with this printer.
- 3. Do cleaning Head 1 and then Cleaning Head 2.

### Backs of Sheets Stained With Ink

### Possible Cause/Need to Confirm:

• Paper has jammed in the printer or the transport belt is dirty.

### Action:

- 1. Run a print job with several sheets of paper to use clean up the ink. Use a damp cloth to clean the surface of the transport belt, and then use a clean, dry cloth to clean the surface of the belt.
- 2. Check the feed roller paper path, if you have installed the duplex unit.

### **Transparency Sheets Scratched**

### Possible Cause/Need to Confirm:

• More than 1 sheet of transparency is set.

### Action:

1. Set transparencies one by one for printing one sheet at time.

### **Vertical White Bands**

### Possible Cause/Need to Confirm:

- Letterhead paper is set.
- The transfer belt slips.

### Action:

1. Set the letterhead paper.

### Note

- Not detect the leading edge and the trailing edge of the paper.
- Be care for not to set incorrect type of paper to avoid printing to the transport belt.
- 2. Reverse the letterhead paper direction and the image.
- 3. Clean the surface of the transport belt (
   "Cleaning Procedure" in Preventive Maintenance).

### Miscellaneous

### Possible Cause/Need to Confirm:

- The paper in use is not the correct paper for the print job.
- The print mode selection was not correct.
- Job settings in the software application are not correct.
- Correct data not selected for the print job.
- One or more of the nozzles is blocked.

### Action:

- 1. Check the paper loaded for feeding. Make sure that it matches the type of paper specified for the print job (transparency, ink jet, plain paper, etc.).
- 2. Make sure that the paper is approved for use with this printer. For more, see the Operating Instructions or the "Specifications" in the last section of the Service Manual.
- 3. Check the settings for the print job in the software application. The settings in the software application have priority over the printer driver settings.
- 4. Confirm that the software application printed the correct data.
- 5. Do cleaning Head 1 once.

### Poor Printer Performance (Miscellaneous)

#### Cannot set the paper cassette

Possible Cause/Need to Confirm:

4

• The cassette is damaged or there is a jammed sheet of paper inside the printer.

### Action:

1. Remove the paper cassette. Remove the jammed sheet from inside the printer. Inspect the paper cassette for damage. If the cassette is damaged, replace the paper cassette.

### Cannot remove the paper cassette

### Possible Cause/Need to Confirm:

• The paper cassette is blocked.

#### Action:

 Raise the paper output tray and reset it. Attempt to remove the paper cassette again. Replace the paper cassette

### Printer Does Not Turn On

### Possible Cause/Need to Confirm:

• The power cord is not connected to the power source.

#### Action:

Follow the instructions on the screen if an error message appears in the Status Monitor, or do the following:

- 1. Make sure the power cord is securely connected to the printer and to the power source.
- 2. Make sure the operator knows how to switch on the printer correctly. For more, refer to the Setup Guide and the Operating Instructions.
- 3. Switch the printer off. Remove the power cord from the power source. Wait 2 minutes then connect the power cord and switch the printer on.

### Printer Fails to Enter "Ready" Mode

#### Possible Cause/Need to Confirm:

• An error has occurred at the printer.

### Action:

1. Check the operation panel and determine which LEDs are on or flashing (temperature out of range, ink out, cover open, etc.) Then refer to the checklist in the previous section.

### **Printing Stops Before Print Job Finishes**

### Possible Cause/Need to Confirm:

• The print heads have overheated.

• A fatal error has occurred on the computer side.

### Action:

- 1. The printer has stopped to allow the print heads to cool. After the print heads have cooled down to the standard operating temperature, the print job will resume.
- 2. Check the screen for messages. Shut down the computer. Switch off the printer. Check the USB connection at the printer and the computer. Switch the printer on. Restart the computer.

### Printer Loses Power

### Possible Cause/Need to Confirm:

- Power loss at the source.
- The printer has blown a fuse.

#### Action:

- Power to the printer has been interrupted, due to a power failure or some other external cause. Unplug
  the printer from the power source. Wait 2 minutes. Reconnect the power plug and switch the printer
  on.
- 2. Check the PSU.
- 3. Replace the PSU.

### Firmware Update Failed

### Possible Cause/Need to Confirm:

• Incorrect procedure

### Action:

1. Updates the firmware.

### **Unusual Noises**

### Printer Emits Strange Noises at Power On

### Possible Cause/Need to Confirm:

- Paper scraps remain inside the printer.
- Special print media may make a noise on feeding the last sheet.

### Action:

1. Open the top cover, rear cover (or Duplex Unit) cover and inspect inside the printer and Duplex Unit for paper scraps left behind after clearing a paper jam.

2. Load one blank sheet of plain paper at the bottom of a stack of special media (coated paper, etc.) This problem may occur with a new paper cassette.

### Alert Message Does Not Clear

### Front Door Is Not Closed Properly

### Possible Cause/Need to Confirm:

- Confirm inner blue cover is closed properly.
- Confirm ink cartridges position

#### Action:

4

- 1. Close the cover. Confirm the inner blue cover is closed properly
- 2. Set all ink cartridges. Confirm the front door is closed properly

### **Horizontal lines**

### Nozzle Blockage

#### Possible Cause/Need to Confirm:

• Print out "nozzle check pattern sheet", and confirm some nozzles are blocked.

#### Action:

1. Do head cleaning. If still problem does not clear, leave the machine unused overnight.

Vote

This workaround may not be acceptable to the customer or practical in some regions. In this
case, please dispatch the tech.

### Banding

### Possible Cause/Need to Confirm:

• Confirm whether this symptom is banding or horizontal lines.

### Action:

1. If the symptom is banding, explain the specification to the customer

### Ink End Not Cleared After Replacing Ink

### Ink Is Set Incorrectly

### Possible Cause/Need to Confirm:

• -

### Action:

1. Re-install all ink cartridge

### Ink Is Set Incorrectly

### Possible Cause/Need to Confirm:

### • -

### Action:

1. Close the front door properly.

### Ink Is Not Filled

### Possible Cause/Need to Confirm:

• Ink supply motor is not working.

### Action:

1. Harness connection is incorrect. Check all harness connections between engine unit and mainframe or ink supply motor is defective.

### Paper Jam

### Paper Is Loaded Incorrectly

### Possible Cause/Need to Confirm:

• -

### Action:

1. Remove all the paper in the tray, set end/side fence correctly, then reload the paper.

### Entrance jams occur frequently.

Possible Cause/Need to Confirm:

- Confirm the paper type if it is within specification or not.
- Not to fit the side fences to the size of the paper loaded in the cassette

#### Action:

- 1. If the surface of the belt is dirty, clean the belt with wet cloth
- 2. Confirm the paper. Please advice the recommended paper.
- 3. Secure the side fences in place with screws, in the position corresponding to the paper size.

### **Blurred Image**

### Inappropriate Image Density Setting

### Possible Cause/Need to Confirm:

- Confirm the image density setting in User tools for printer.
- Confirm the notch setting on the operation panel for copy.

### Action:

4

1. Adjusts the image density.

### **Text Shifting**

### **Incorrect Print Head Position**

### Possible Cause/Need to Confirm:

• Performs "Head position adjustment".

### Action:

1. Adjusts the print head position with UP.

### **Incorrect Registration Setting**

### Possible Cause/Need to Confirm:

• Perform "Paper feed adjustment".

### Action:

1. Adjusts the paper feed with UP.

### Paper Printing Surface Dirty

### **Dirty Belt**

### Possible Cause/Need to Confirm:

• -

### Action:

1. Feed some sheets of white paper.

### **Printing Head Position**

### Possible Cause/Need to Confirm:

• Use envelope lever

#### Action:

1. Set envelope lever position to lower (Envelope).

### Nozzle Blockage

### Possible Cause/Need to Confirm:

• Prints "nozzle check pattern sheet"

### Action:

1. Do head cleaning/flushing.

### Ink Near End Status Keeps Longer Time

### Ink Near End Status Does Not Change to Ink End

### Possible Cause/Need to Confirm:

• Near end status starts after remained ink is remained only 10%.

### Action:

1. Ink near end status keeps longer time.

4

### Light Image

### Inappropriate Color Density Setting

### Possible Cause/Need to Confirm:

• Confirm if the printer density setting is lighter.

#### Action:

1. Set printer density to darker. (In User Tools - Printer Features - Maintenance - Image Density)

### Level color

#### Possible Cause/Need to Confirm:

• Confirm if the check box is marked for "level color".

### Action:

1. If level color is checked, ask customer to remove the check.

### Paper Type

### Possible Cause/Need to Confirm:

• Confirm paper type

### Action:

1. If customer is not using non-recommended paper, ask customer to use recommended paper.

### Nozzle Blockage

### Possible Cause/Need to Confirm:

• Prints "nozzle check pattern sheet"

#### Action:

1. Do head cleaning/flushing.

### **Incorrect Color**

### Inappropriate Printing Mode

### Possible Cause/Need to Confirm:

• Confirm the printing mode

### Action:

1. Explain the print mode based on customer requirement.

### **Application Related**

### Possible Cause/Need to Confirm:

• Confirm the printing setting of application

### Action:

1. In some application, there is a case to control the color by itself such as illustrator or Photoshop.

### Paper Type

### Possible Cause/Need to Confirm:

• Confirm the paper type (OHP)

### Action:

1. As specification, black color is printed by CMY for OHP. Explain this specification to the customer.

### Nozzle Blockage

### Possible Cause/Need to Confirm:

• Instruct customer to print nozzle check pattern sheet

### Action:

1. Do head cleaning/flushing.

### **Slow Printing Speed**

### Low Printing Speed When Using the Envelope Lever

### Possible Cause/Need to Confirm:

• Confirm if the envelope lever is lower position.

#### Action:

 The base condition for this feature to work is the image coverage of at least 20%. In most cases, paper drying takes 7 seconds or less. The longest possible amount of time would be 10 seconds. Refer to the table below for each interval time.

### **Uneven Image Density**

### Uneven Image Density with Paper From Cold Storage (L/L)

### Possible Cause/Need to Confirm:

### • -

### Action:

- 1. Change the printing mode to "Quality Mode" (600dpi).
- 2. Enable uni-directional printing using the envelope lever

### or

1. Enable uni-directional printing in Sp3112-001.

### Nozzle Blockage

### Possible Cause/Need to Confirm:

• Prints "nozzle check pattern sheet"

#### Action:

1. Do head cleaning/flushing.

### **Remaining Paper Jams**

#### Possible Cause/Need to Confirm:

• -

### Action:

1. Lock the side fence in the position corresponding to the paper size.

## Image Test Mode

### Overview

The SBU, BICU, and LD board have the function that prints out their test pattern. It is useful to find the defective board when the image data problem is occurred.

### **IPU** test

The BICU board has the IPU test pattern. To make sure the image processing is functioning, output the IPU test pattern with SP4-417.

## **Initial Ink Loading**

If the initial ink loading is interrupted by an SC, Ink End, main power OFF or door open condition, it will begin again where it left off (no ink is ejucted).

Note

• If the machine detects air in the tank, it will perform an air releace and ink filling for all of the colors.

### Procedure

- 1. Turn the power ON and wait unitl "Ready" is displayed.
- 2. Make sure that bits 0 to 4 of SP3-112-005 (Print Mode Setting Setting 5) are at a value of "0".
  - "0": Initial ink loading has been completed.
  - "1": Initial ink loading has not been completed.
- 3. Do SP2-010-002 (Head Maintenance Refresh) for the color(s) that have not been completed yet.
  - 0: All colors, 1: Cyan, 2: Black-1, 4: Black-2, 8: Magenta, 16: Yellow

### Vote

- If you want to do two or more colors at the same time, input the sum of the codes listed above.
   For example, to do Magenta and Yellow at the same time, input "24" (8 + 16).
- 4. Check SP3-112-005 again and make sure bits 0 to 4 are at the value "0". If bits 0, 1, 2, 3 or 4 are at value "1", perform SP2-010-002 again for that color.
- 5. Do the initial Setting.

# **Electrical Component Defects**

### Sensors

Component	CN	Condition	Symptom
	115-6	Open	The Paper Jam message will appear whenever a copy is made (paper hasn't reached the sensor).
FIRST REGISTRATION	(BICU)	Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Relay	116-2	Open	The Paper Jam message will appear whenever a copy is made except for 1st and by-pass tray feeding.
	(ысо)	Shorted	The Paper Jam message appears even if there is no paper at the sensor.
By-pass Paper End (BIG		Open	The Paper End indicator lights when the bypass tray is selected, even if there is paper in the tray.
	127-11 (BICU)	Shorted	The Paper End indicator does not light when the bypass tray is selected, even if there is no paper in the tray. The Paper Jam message will appear whenever a copy is made from the bypass tray.
Junction Gate	114-A9 (BICU)	Open	The Paper Jam message will appear whenever a copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Exit	114-A4 (BICU)	Open	The Paper Jam message will appear whenever a copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Engine Entrance	161-2 (BICU)	Open	The Paper Jam message will appear whenever a copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.

Component	CN	Condition	Symptom
114	114-B7	Open	The Paper Jam message will appear whenever a copy is made (paper hasn't reached the sensor).
Engine Exit	(BICU)	Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Samman H D	102-2	Open	SC120 is disclosured
Scanner H.P.	(BICU)	Shorted	SC I 20 is displayed.
	102.5	Open	APS and Auto Reduce/Enlarge do not function correctly.
Platen Cover	(BICU)	Shorted	If the Start button is pressed with the platen cover or A(R)DF closed, "Cannot detect original size" is displayed.
	103-2.5	Open	The CPU cannot detect the original size properly.
Original Width	(BICU)	Shorted	APS and Auto Reduce/Enlarge do not function correctly.
	103-8,11 (BICU)	Open	The CPU cannot detect the original size properly.
Original Length		Shorted	APS and Auto Reduce/Enlarge do not function correctly.
Duplex Entrance	105-4 (DCB)	Open	The Paper Jam message will appear whenever a duplex copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Duplex Exit	106-4 (DCB)	Open	The Paper Jam message will appear whenever a duplex copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.
Duplex Inverter	104-2	Open	The Paper Jam message will appear whenever a duplex copy is made (paper hasn't reached the sensor).
		Shorted	The Paper Jam message appears even if there is no paper at the sensor.

Component	CN	Condition	Symptom
Waste Jak Taal Eul	123-1	Open	
	(BICU)	Shorted	
Sub Sam Encadan	161-7,8	Open	SC520 is disclosed
SUD Scan Encoder	(BICU)	Shorted	SCS20 is displayed.
	3-3,4	Open	
Main Scan Encoder	(COM)	Shorted	SC210 or SC211 is displayed.
Inde Eull	508-11	Open	
	(BICU)	Shorted	SC202 is displayed.
1:6	140-6,7	Open	
LIT Sensor I	(I/F)	Shorted	SCSUS is displayed.
1:6	140-1,2	Open	SC504 is disclosed
LIIT sensor Z	(I∕F)	Shorted	SCS04 is aispiayea.

### Switches

Component	CN	Condition	Symptom
	113-2	Open	The CPU cannot detect the paper end, and a paper
Paper End	(BICU)	Shorted	jam may occur when a copy is made trom the standard paper tray.
Paper Size	113-	Open	The CPU cannot detect the proper paper size, and
	3,4,6 (BICU)	Shorted	nisteeds may occur when a copy is made from the 1st paper tray.
Vertical Transport Door	110-5 (BICU)	Open	The Cover Open indicator is lit even if the vertical transport door is closed.
		Shorted	The Cover Open indicator is not lit even if the vertical transport door is opened.
By-pass Paper Size	127-	Open	The CPU misdetects or is not able to detect the size
	1,2,4,5	Shorted	ot the paper set in the bypass tray, causing possible misfeeds when feeding from this tray.

Component	CN	Condition	Symptom
	(BICU)		
One-sheet By-pass	127-9	Open	The machine detects that the one-sheet by-pass tray is open even it is closed.
Tray	(BICU)	Shorted	The machine does not detect that the one-sheet by- pass tray is open even it is actually opened.
One-sheet By-pass	113-8	Open	The machine does not open the one-sheet by-pass shutter even a sheet of paper is set to the one-sheet by-pass tray.
Paper Set	(BICU)	Shorted	The machine open the one-sheet by-pass shutter even a sheet of paper is not set to the one-sheet by- pass tray.
One-sheet By-pass	114-A2 (BICU)	Open	The Cover Open indicator is lit even if doors are closed.
Exit Door		Shorted	The Cover Open indicator is not lit even if doors are open.
Picht Door	115-2 (BICU)	Open	The Cover Open indicator is lit even if the right door is closed.
Kigni Door		Shorted	The Cover Open indicator is not lit even if the right door is open.
	111-4 (BICU)	Open	The Cover Open indicator is lit even if doors are closed.
Front Door		Shorted	The Cover Open indicator is not lit even if doors are open.
Left Door	114-A7 (BICU)	Open	The Cover Open indicator is lit even if doors are closed.
		Shorted	The Cover Open indicator is not lit even if doors are open.
Left Junction Cover	126-4	Open	The Cover Open indicator is lit even if doors are closed.
	(BICU)	Shorted	The Cover Open indicator is not lit even if doors are open.

Component	CN	Condition	Symptom
Carriage Postion	161-5	Open	SC200 is displayed
	(BICU)	Shorted	
Main		Open	The machine does not turn on.
		Shorted	The machine does not turn off.

## Blown fuse conditions

F	Rating			
ruse	Fuse   Symptom when turn     120 V   220 – 240 V	- Symptom when turning on the main switch		
Power Sup	oply Board			
FU1	3.15A/250V	6.3A/250V	No response.	
FU2	1A/250V	1A/250V		
FU4	4A/250V	4A/250V		
FU5	4A/250V	4A/250V		
FU6	4A/250V	4A/250V		
FU7	4A/250V	4A/250V		
FU8	3.15A/250V	3.15A/250V		
High Voltage Power Supply				
F1	2.5A	/72V		
Lamp Inve	rter			
F1	1.25A	/250V		

4. Troubleshooting

# 5. Service Tables

# Service Program Mode

## 

• Do not let the user access the SP mode. Only service representatives but no other persons are allowed to access the SP mode. The machine quality or its operation is NOT guaranteed after any person other than service representatives accesses the SP mode.

### How to Enter the SP Mode

The following two modes are available:

- SP Mode (Service Program Mode): The SP Mode includes the programs that are necessary for standard maintenance work.
- SSP Mode (Special SP Mode): The SSP Mode includes SP-Mode programs and some special programs. You need some extra knowledge to manipulate these special programs. For details, consult your supervisor.



### Starting SP Mode

- 1. Type the keys as follows: [Clear Modes] > [1] > [0] > [7]
- 2. Press the [Clear/Stop] key and hold it down until the SP-mode menu is displayed (about 3 seconds).

### **Selecting Programs**

- When a blinking underscore (or several blinking underscores) is displayed, you can type a number from the numeric keypad [D].
- When the sign "◀ ►/OK" [A] is displayed upper right corner, you can scroll through the menu by
  pressing the left-arrow key [B] or the right-arrow key [C]. To select a program, press the "OK" key
  [F].

### **Specifying Values**

- 1. After locating a program, press the "OK" key. A blinking underscore (or several blinking underscores) indicates which value you can change. The value in parentheses is the default value of the menu.
- 2. Type a necessary value from the numeric keypad. To switch between positive (plus) and negative (minus) values, press the [./\*] (period/asterisk) key.
- 3. To validate the value, press the "OK" key. To cancel the value, press the cancel key [E].

### Activating Copy Mode

You can activate the copy mode while the SP mode is running. When you do so, the copier outputs images or patterns that help you adjust the SP-mode program.

- 1. Press the 🕙 key. The copy mode is activated.
- 2. Specify copy settings and press the "OK" key.
- 3. To return to the SP mode, press the 🔭 key.

### Note

• You cannot end the SP mode while the copy mode is activated.

### Quitting Programs/Ending (S)SP Mode

Press the <sup>(\*)</sup> key or the "Cancel" key to quit the program. You can end the SP mode by pressing one of these keys several times.

# **SP Mode Tables**

The tables in this section list the service programs (SPs).

The following codes are used:

- Asterisk (\*): The settings are saved in the NVRAM. Most of them return to the default values when you
  execute SP 5801 2
- The DFU menu is for design or factory use only. You must not change the settings.
- Brackets ([]): The brackets enclose the setting rage, default value, and minimum steps (with unit) as follows: [Minimum to Maximum / Default / Step].
- SSP: Consult your supervisor before you use this program.

1001*	[LE Regist] Leading Edge Registration	
001	All Trays	Adjusts the printing leading-edge registration from pap
002	Bypass	trays.
003	Duplex	(• Copy Adjustments)
004	End space	Adjusts the printing trailing-edge registration from the paper trays. [–9.0 to 9.0 / 0.0 / 0.1 mm/step]
005	OHP	Adjusts the printing leading-edge registration of OHP from thebypass tray. [-9.0 to 9.0 / 0.0 / 0.1 mm/step]
006	All Trays (Fact)	
007	Bypass (Fact)	
008	Duplex (Fact)	SP5884-1 when you change the values of SP1001-1 to
009	End Space (Fact)	5 to the SP1001-6 to 10 (factory settings).
010	OHP (Fact)	-
011	Letterhead	Adjusts leading edge registration for letterhead paper.
012	Letterhead(Fact)	[-9.0 to 9.0 / 0.0 / 0.1 mm/step]

### SP1-XXX (Feed)

	[S-to-S Regist]				
	Adjusts printing side-to-side registration from each paper feed station. Adjustments are effective for all four possible feed trays (including optional trays).				
	• A "-" value shifts the image to the right side of the paper.				
1002*	• A "+" value shifts the image to the left side of the paper.				
	The SP 1002 1 setting is applied to all trays, not just the 1st tray. Settings for trays 2 to 4 are offsets relative to the SP 1002 1 setting.				
	For duplex copies, the value for value for the rear side is determined at the rear side is determined.	or the front side is determined by SP 1002-1 to -4, and the mined by SP 1002-6.			
001	l st Tray				
002	1 st Optional				
003	2nd Optional				
004	Bypass:100	[-9.0 to 9.0 / 0.0 / 0.1 mm/step] (* Copy Adjustments)			
005	Bypass				
006	Duplex				
007	OHP				
008	1 st Tray (Fact)				
009	1 st Opt (Fact)				
010	2nd Opt (Fact)				
011	Bypass:100 (Fact)	Resets each adjusted value (SP1002-1 to 7) to the factory setting.			
012	Bypass (Fact)				
013	Duplex (Fact)				
014	OHP (Fact)				

1003*	[Paper Buckle]	
001	l st tray	Adjusts the amount of buckle that the paper feed motor
002	Reg Bank	applies to the paper after the registration sensor is activated. A higher setting applies greater buckling.
003	Reg Bypass	[0 to 10 / <b>3</b> / 1 mm/step]

004	Reg Duplex	
005	Belt1 Tray	
006	Belt1 Multi: Plain	Adjusts the amount of buckle that the paper feed motor
007	Belt1 Multi: Thk1	applies to the paper atter the belt entrance sensor is activated. A higher setting applies greater buckling.
008	Belt1 Multi: Thk2	[0 to 10 / 3 / 1 mm/step]
009	Belt1 Duplex	
010	Belt2 Tray	
011	Belt2 Multi: Plain	Adjusts the amount of buckle that the paper feed motor
012	Belt2 Multi: Thk1	applies to the paper atter the carriage sensor is activated. A higher setting applies greater buckling.
013	Belt2 Multi: Thk2	[0 to 10 / <b>4</b> / 1 mm/step]
014	Belt2 Duplex	

1014	[Single Bypass] Single Bypass Setting		
		Adjusts the transport distance of paper fed from Bypass tray.	
001	Pre-feed Distance	Do not specify 40 mm with this SP. If so, the machine detects paper jam. [20 to 40 / <b>30</b> / 1 mm/step]	
002	Reset Time	Adjusts the interval for the single bypass mode to be ready. The machine resets the ready state for single bypass mode after the specified time with this SP has passed.	
		[5 to 20 / <b>5</b> / 1 min/step]	

1015	[Feed Time Adj] Feed Time Adjustment	
	Adjusts amount of time paper stops to dry.	
001	Pause 1	[0 to 80 / <b>10</b> / 1 sec/step]
002	Pause 2	[0 to 60 / <b>10</b> / 1 sec/step]
003	Pause 3	[0 to 40 / <b>7</b> / 1 sec/step]

004	Pause 4	[0 to 20 / <b>2</b> / 1 sec/step]
005	Pause 5	[0 to 10 / <b>0</b> / 1 sec/step]

1017*	[Temp Abnormal] Abnormal Temperature Detection	
001	High Temp Stop H	DFU
002	High Temp HM	The specified value with this SP is the threshold for machine stop. The machine stops when the measured
003	High Temp Rec HL	temperature goes up to the specified value and recoveries when the measured temperature goes down to the specified value. This temperature is measured by a thermistor at the transport belt. [20 to 50 / <b>48.5</b> / 0.5°C/step]
004	Low Temp Rec LH	The specified value with this SP is the threshold for
005	Low Temp LM	machine stop. The machine stops when the measured temperature goes down to the specified value and
006	Low Temp Stop L	recoveries when the measured temperature goes up to the specified value. This temperature is measured by thermistor at the transport belt. [1 to 20 / 1 / 0.5°C/step]

1018*	[Env Temp Abnormal] Environment Temperature Abnormal Detection	
001	High Temp Stop H	<b>DFU</b> The specified value with this SP is the threshold for machine stop. The measured temperature goes up to the specified value. This temperature is measured by thermistor at the carriage. [20 to 50 / <b>43.5</b> / 0.5°C/step]
002	High Temp HM	DFU
003	High Temp Rec HL	The specified value with this SP is the threshold for machine recovery. The measured temperature goes down to the specified value. This temperature is measured by thermistor at the carriage. [20 to 50 / <b>41.5</b> / 0.5°C/step]
004	Low Temp Rec LH	DFU

005	Low Temp LM	The specified value with this SP is the threshold for
	006 Low Temp Stop L	indefinite slop. The indefinite slops when the medsured
		temperature goes down to the specified value and
006		recoveries when the measured temperature goes up to
		the specified value. This temperature is measured by
		thermistor at the transport belt.
		[1 to 20 / 1 / 0.5°C/step]

1090*	[Return Quantity]	
001	1 st Tray	After driving main paper feed, turns feed roller in reverse direction to adjust the top sheet of paper, realigning it in the paper tray [0 to 30 / <b>5</b> / 1 mm/step]

1091*	[Exit Motor Feed Adj]	
001	Paper Exit	Adjusts extra feeding amount with exit motor. [0 to 6 / <b>5.3</b> / 0.1 mm/step]

	[Feed Clutch Boost]	
1903	Adjusts the amount of extra push that the feed clutch gives to the paper after the skew has been corrected at registration. This feature helps the registration roller feed certain types of paper (such as thick paper). Increase the value if thick paper is jamming after feeding from the registration roller.	
001	l st Tray	[0 to 100 / <b>50</b> / 5 ms/step]
002	Bypass: 100	
003	Optional Tray	[0 to 100 / <b>10</b> / 5 ms/step]

	[Option Tray Adj] Optional Tray Adjustment	
	Adjusts the bottom plate pressure of the optional paper feed unit.	
<ul> <li>+value increases pressure betwee feed unit.</li> </ul>		tween the papers and the feeding roller at the optional
	<ul> <li>-value decreases pressure between the papers and the feeding roller at the optional feed unit.</li> </ul>	
001	1 st Optional	[-2 to 2 / <b>0</b> / 1%/step]

002	2nd Optional	
	1	

1910*	[MainScan Mode Set] Not Used	
001	Setting	[0 to 0xFF / <b>0</b> / 1 mm/step]

1922*	[SubScan: Send Adj] Sub Scan: Line Adjustment	
0.01	Value	[-100 to 100 / <b>22</b> / 1/step]
001	Adjusts the sub scan line referring to the adjustment sheet printed with SP3109-4.	
002	Value(Fact)	This value is the factory setting. This value overwrites the value of SP1-922-1 when SP5-884-1 is executed.
003	LEFT SCAN	[-400 to 400 / 0 / 1 pulse/step]
	This value is reference for the returning way (front to rear: home position) scanning. Therefore, it is not adjusted normally.	
004	RIGHT SCAN	[-400 to 400 / 0 / 1 pulse/step]
	Adjusts the gap between going way (rear to front) and returning way (front to rear) scanning position.	

1923*	[Belt Temp Adj] Belt Temperature Adjustment DFU	
001	Adj Value	[0 to 100 / <b>23</b> / 1 mm/step]
002	User Adj Value	[0 to 100 / <b>0</b> / 1 mm/step]

## SP2-XXX (Drum)

2010	[Head Maint] Head Maintenance	
Cleaning [0 to 30 / 0 / 1 /step]		[0 to 30 / <b>0</b> / 1 /step]
001	Executes printer head cleaning for each color. Check the nozzle check pattern with the SP3109-3. Set the number corresponding with each color if there is a problem with the printed out nozzle check pattern. 0: All colors, 1: Cyan, 2: Black 1, 4: Black 2, 8: Magenta, 16: Yellow	

	<ul> <li>If it is necessary to clean more than two colors at same time, set the total number of the colors to be cleaned. e.g. If you want to clean the printer heads of Magenta and Yellow, set 24 (8+16) in this SP.</li> </ul>		
	Refresh	[0 to 30 / <b>0</b> / 1 /step]	
002	Executes the printer heads refreshing for each color. Do this SP in case that "Cleaning" (SP2010-1) does not solve a problem in the sheet of the		
	nozzle check pattern. 0: All colors, 1: Cyan, 2: Black 1, 4: Black 2, 8: Magenta, 16: Yellow		
	<ul> <li>If it is necessary to clean more than two colors at same time, set the total number of the colors to be cleaned. e.g. If you want to clean the printer heads of Magenta and Yellow, set 24 (8+16) in this SP.</li> </ul>		

2012*	[Ini Ope Setting]
001	The machine cannot be set in user mode after doing engine clear. Refer to the following values after main power on.
	0: Maintenance system inoperable
	1: Initial fill-up
	2: Normal startup
	3: Initial fill-up (Factory setting)
	When the value 4 displays, do same as value 2
	[0 to 3 / <b>0</b> / 1]

2013*	[Initial Chrg Flag] Not Used	
001	К1	[0 255 / <b>0</b> / 1 ]
002	К2	[0 255 / <b>0</b> / 1 ]
003	С	[0 255 / <b>0</b> / 1 ]
004	М	[0 255 / <b>0</b> / 1 ]
005	Y	[0 255 / <b>0</b> / 1 ]

2100	[Spe Maint] Special Maintenance	
001	Ink Purge	[0 or 1 / <b>0</b> / - ]

Removes remaining ink from the sub tanks for replacing the engine unit or transporting the machine. Ink purge cannot be performed if there is air in the tank (SP2-245-001 to 005: Either of values are not "0"). Confirm results of attempted purge with following SPs.

- 7-946-001: Success or failure
- 7-946-002: Ink end

2101	[Special Cleaning]	
001	К1	Executes the head cleaning for each printer head.
002	K2	The machine uses 32.04 ml of ink for this special cleaning.
003	С	
004	Μ	• Do not use customer's ink for this mode.
005	Y	• After performing this special cleaning, you need to perform normal refreshing once to recover normal nozzle performance. (Special cleaning creates faster ink flow, and sometimes air may get caught in the nozzle. As a result, printouts may temporarily produce some white lines. To recover from such a condition, you need to perform the normal refreshing once.)

2102	[Driving Cleaning]	
001	К1	Operates a stronger drive cleaning than flushing cleaning
002	K2	Do not operate strong drive cleaning under following conditions.
003	С	• SP2-245-001 to 005: Either of air flag values are not "0"
004	М	<ul> <li>Ink correction tank is near full.</li> </ul>
005	Y	

2102	[Prt Erase Margin] Printer Erase Margin	
2103	Adjusts the erase margin of each edge for each paper type or in each printing mode.	
001	Adj LEdge Margin	Leading edge for standard paper [2 to 6 / <b>3.3</b> / 0.1 mm/step]

002	Adj TEdge Margin	Trailing edge for standard paper [0.5 to 4 / <b>2</b> / 0.1 mm/step]
003	Adj Left Margin	Left edge for standard paper [0 to 4 / <b>2.0</b> / 0.1 mm/step]
004	Adj Right Margin	Right edge for standard paper [0 to 4 / <b>2.0</b> / 0.1 mm/step]
005	Lead Edge OHP	Leading edge for OHP [2 to 6 / <b>3.3</b> / 0.1 mm/step]
006	Back End OHP	Trailing edge for OHP [0.5 to 4 / <b>2</b> / 0.1 mm/step]
007	Left Mar OHP	Left edge for OHP [0 to 10 / <b>5</b> / 0.1 mm/step]
008	Right Mar OHP	Right edge for OHP [0 to 10 / <b>5</b> / 0.1 mm/step]
009	Left Mar Bypass	Left edge in Bypass mode [0 to 10 / <b>5</b> / 0.1 mm/step]
010	Right Mar Bypass	Right edge in Bypass mode [0 to 10 / <b>5</b> / 0.1 mm/step]
011	Lead Edge Envelope	Leading edge for an envelope [2 to 50 / <b>38</b> / 0.1 mm/step]
012	Back End Envelope	Trailing edge for an envelope [2 to 16 / <b>8.0</b> / 0.1 mm/step]
013	Left Mar Envelope	Left edge for an envelope [0 to 10 / <b>5</b> / 0.1 mm/step]
014	Right Mar Envelope	Right edge for an envelope [2 to 16 / <b>8.0</b> / 0.1 mm/step]
015*	Letterhead	Adjusts erase margin for letterhead paper [0 to 40 / <b>0</b> / 0.1 mm/step]
2112*	[Env. Correction] Not Used	
-------	----------------------------	----------------------------------
001	Temperature	[-20 to 20 / <b>0</b> / 0.1 deg]
002	Humidity	[-100 to 100 / 0 / 1 %]

2190*	[DRESS Sensor CAL] DFU	
001	Check PWM Setting	[64 to 380 / <b>290</b> / 1]
002	Check Result Ave	[0 to 5.5 / <b>0</b> / 0.01v]
003	Check Result Max	[0 to 5.5 / <b>0</b> / 0.01v]
004	Check Result Min	[0 to 5.5 / <b>0</b> / 0.01v]
005	Init. PWM Setting	[0 to 1023 / <b>0</b> / 1]

)		005	Init. PV
	2192*		[DRES
		001	Thresh
			-

2192*	[DRESS Sensor Read] DFU	
001	Threshold1 Upper	[0.5 to 4 / <b>3.7</b> / 0.1 v]
002	Threshold1 Lower	[0.5 to 4 / <b>3.3</b> / 0.1 v]
003	Threshold2 Upper	[0.5 to 4 / <b>3.2</b> / 0.1 v]
004	Threshold2 Lower	[0.5 to 4 / <b>2.8</b> / 0.1 v]
005	Threshold3 Upper	[0.5 to 4 / <b>2.8</b> / 0.1 v]
006	Threshold3 Lower	[0.5 to 4 / <b>2.4</b> / 0.1 v]
010	Repeat Number	[1 to 99 / 1 / 1 times]
011	Velocity Correct.	[-100 to 100 / <b>0</b> / 0.01 mm/s]
012	Velocity	[0 to 5000 / <b>300</b> / 0.1 mm/s]

2193*	[DRESS Cond. Set] DFU	
001	Auto Execution	[0 to 1 / <b>0</b> / 0.1]
002	Print Page	[0 to 999999 / <b>0</b> / 1page]
003	Cond. of Temp	[0 to 100 / <b>5</b> / 1deg]
004	Set Time	[0 to 1440 / <b>0</b> / 1 minute]

005	Error Threshold	[0 to 255 / <b>4</b> / 1]
006	Prohibition Temp	[0 to 100 / <b>5</b> / 1deg]

2194*	[DRESS Exe. Result] DFU	
001	Year	[0 to 99 / <b>0</b> / 1 year]
002	Month	[0 to 12 / 1 / 1 month]
003	Day	[0 to 31 / 1 / 1 day]
004	Hour	[0 to 23 / 1 / 1 hour]
005	Minute	[0 to 59 / 1 / 1 minute]
006	Temperature	[0 to 100 / <b>1</b> / 1deg]
007	Result	[0 to 1 / 0 / 1]
008	Number of Exe	[0 to 999999 / <b>0</b> / 1 times]
009	Read Fail. Count	[0 to 999999 / <b>0</b> / 1 times]
010	Calc fail. Count	[0 to 999999 / <b>0</b> / 1 times]
011	Error Threshold	[0 to 255 / <b>0</b> / 1 times]

2197*	[DRESS Start Time] DFU	
001	Time	[0 to 1000 / <b>0</b> / 1 ms]

2198*	[DRESS Pattern] DFU	
001	Start Position	[-1000 to 10000 / <b>0</b> / 1mm]
002	Pattern Type	[1 to 10 / 1 / 1]

2199*	[DRESS ErrTime Set] DFU	
001	Detection Counter	[0.5 to 4 / <b>2</b> / 0.1 mm]
ŀ	2	

2200* [Normal Fil Pos] Normal Filling Ink Position	

	Displays the standard position of the ink actuator when air releasing is finished. These values are referred to when checking ink quantity.	
001	К1	
002	К2	
003	С	[0 to 60000 / <b>0</b> / 1 pulse/step]
004	М	
005	Y	

2240*	[Re-Supply Switch]
	Refresh ink supply pump, when it is not used for a long time,
001	0: OFF, 1: ON,
	[O to 1 / 1 /-]

2241*	[Re-Supply Setting]
001	Adjusts the ink supply sequence interval threshold.
	[168 to 2160 / <b>720</b> / 1 hour / step]

	[Re-Supply Count]	
	Displays the number of counts requested of the re-supply counter.	
2242*	If the following SPs are executed, the counters are cleared.	
SP7-805-001: Clears current counts		rrent counts
	• SP7 805-002: Resets all counts	
001	K1 After Exchange	
002	K2 After Exchange	
003	C After Exchange	Current counts [0 to 999999 / <b>0</b> / 1 /step]
004	M After Exchange	
005	Y After Exchange	
006	K1 Total	All counts
007	K2 Total	[0 to 999999 / <b>0</b> / 1 /step]

008	C Total	
009	M Total	
010	Y Total	

2243*	<b>[Pump Stop Time]</b> Displays the actual stop time requested of the pump stop time.	
001	КІН	[0 to 0xFFFFFFF / 0 / 1 /step]
002	K1L	[0 to 0xFFFFFFF / 0 / 1 /step]
003	К2 Н	[0 to 0xFFFFFFF / 0 / 1 /step]
004	K2 L	[0 to 0xFFFFFFF / 0 / 1 /step]
005	СН	[0 to 0xFFFFFFF / 0 / 1 /step]
006	CL	[0 to 0xFFFFFFF / 0 / 1 /step]
007	мн	[0 to 0xFFFFFFF / 0 / 1 /step]
008	ML	[0 to 0xFFFFFFF / 0 / 1 /step]
009	ΥН	[0 to 0xFFFFFFF / 0 / 1 /step]
010	YL	[0 to 0xFFFFFFF / 0 / 1 /step]

2244*	[Job end Treshold]	
	Adjusts the capping threshold value.	
001	Capping Wait Time	[1 to 20 / <b>7</b> / 1 sec /step]

	[Bubble flag]
	Forces air into print head tank from ink supply pumps and ink supply tubes (when air is in the supply system).
00/5*	Displays the air flag 0 to 1 when this occurrs.
2245*	Trigger:
	0: Normal condition
	1: Ink end condition
	2: More than one month idling

	4: Ink supply pump lengthy shutoff	
001	К1	[0 to 7 / <b>0</b> / 1 /step]
002	К2	[0 to 7 / <b>0</b> / 1 /step]
003	С	[0 to 7 / <b>0</b> / 1 /step]
004	Μ	[0 to 7 / <b>0</b> / 1 /step]
005	Y	[0 to 7 / <b>0</b> / 1 /step]

	[Pour Out Ink Time]	
2246*	Displays date and time of most recent successful (cleaning) Ink pour out. If display indicates "FFFFFFF", this means either that pour out cleaning has not been done, or was unsuccessful.	
	"H" display is for YYYY, MM,	DD and "L" display is for HH, MM, SS.
001	КІН	[O to OxFFFFFFF / O / 1 /step]
002	K1L	[O to OxFFFFFFF / <b>0</b> / 1 /step]
003	К2 Н	[0 to 0xFFFFFFF / 0 / 1 /step]
004	K2 L	[O to OxFFFFFFF / <b>0</b> / 1 /step]
005	СН	[O to OxFFFFFFF / <b>0</b> / 1 /step]
006	CL	[O to OxFFFFFFF / <b>0</b> / 1 /step]
007	мн	[O to OxFFFFFFF / <b>0</b> / 1 /step]
008	ML	[O to OxFFFFFFF / <b>0</b> / 1 /step]
009	ҮН	[0 to 0xFFFFFFF / 0 / 1 /step]
010	YL	[0 to 0xFFFFFFF / 0 / 1 /step]

2247*	[PreNormal Fil Pos]	
	Display the number of history for normal ink filling positon.	
001	К1	[0 to 6000 / <b>0</b> / 5 pulse /step]
002	K2	[0 to 6000 / <b>0</b> / 5 pulse /step]
003	С	[0 to 6000 / <b>0</b> / 5 pulse /step]

004	Μ	[0 to 6000 / <b>0</b> / 5 pulse /step]
005	Y	[0 to 6000 / <b>0</b> / 5 pulse /step]

2248*	[Air Sens Thresh] Displays air sensor threshold.	
001	К1	[0 to 1023 / <b>655</b> / 1 /step]
002	K2	[0 to 1023 / <b>655</b> / 1 /step]
003	С	[0 to 1023 / <b>655</b> / 1 /step]
004	м	[0 to 1023 / <b>655</b> / 1 /step]
005	Υ	[0 to 1023 / <b>655</b> / 1 /step]

2249*	<b>[Bubble Flag Set]</b> The air flag.can be set by air life time in the head tank.	
001	Bubble Life Time	[1 to 72 / <b>24</b> / 1 hour /step]

2250	[Bubble Flag Reset]	
2230	The air release interval time can be used to set all heads air flags to off (for air flag reset).	
001	[1 to 72 / <b>24</b> / 1 hour /step]	

2251*	[Re-Supply Setting]		
2231	Pump operation time threshold can be set.		
001	Pump threshold	[0.1 to 10 / <b>0.2</b> / 0.1 sec/step]	

2252*	<b>[AirOpen FillerPos]</b> This is a positon of filler immediately after air purge/inkfilling.	
001	К1	[0 to 60000 / <b>0</b> / 1 pulse/step]
002	К2	[0 to 60000 / <b>0</b> / 1 pulse/step]
003	С	[0 to 60000 / <b>0</b> / 1 pulse/step]
004	Μ	[0 to 60000 / <b>0</b> / 1 pulse/step]

005	Y	[0 to 60000 / <b>0</b> / 1 pulse/step]
2253*	[Air Thresh (sub)]	
1100	Backup SPs	
001	К	Backup SP7-931-018 to 029 and 032
001		[0 to 1023 / <b>655</b> / 1 / step]
002	с	Backup SP7-933-018 to 029 and 032
		[0 to 1023 / <b>655</b> / 1 / step]
003	м	Backup SP7-932-018 to 029 and 032
		[0 to 1023 / <b>655</b> / 1 / step]
	Y.	Backup SP7-934-018 to 029 and 032
004	Y	[0 to 1023 / <b>655</b> / 1 /step]

2254*	[Drv Wave HL cond]	
001	Temperature th	Sets temperature threshold, which is one of the conditions for changing to a drive wave pattern for low humidity (producing a wave pattern of ink ejection from print head). [0 to 50 / <b>30</b> / 1 degree /step]
002	Humidity th	Sets humidity threshold, which is one of the conditions for changing to a drive wave pattern for low humidity, and a wave pattern of ink ejection from print head. [0 to 100 / <b>20</b> / 1 % /step]
003	Re dot adj val	Adjusting dots for reverse direction. [-10 to 10 / <b>-1</b> / 1 dot /step]
004	Setting	Sets On or Off for this function. [0 to 1 / 1 / 1 /step]

2255*	[Slight drive conf] Sets ink ejection between printouts to on or off.	
001	After maintenance	[0 to 1 / 1 / 1 /step]
002	On shuttle move	[0 to 1 / 1 / 1 /step]

2505	[Wst Ink # Reset] Ink Collection Bottle Counter Reset		
2305	Clears the ink collection bottle counter (Front or Rear).		
001	Front	This clears the counter of SP7-221-2. Do this SP after replacing the flushing gate unit. The counter of SP7-854-2 counts (records) number of ink collection tanks after clearing the counter of SP7-221-2.	
002	Rear	Not Used	

[Wst Ink Near Full] Ink Collection Bottle Near Full Threshold		ion Bottle Near Full Threshold
2307	Specifies the threshold of the ink collection bottle near full.	
001	Rear	[500000 to 2000000 / <b>980000</b> / 1/step]

	ł		
	L	1	
		D	

2509*	[Exhalation]	
001	Prt Exh Interval	Adjustment for interval between ink exhalation (during printing) between pages. The following values show the deviation from one of three tables (table choice setting elsewhere), with "4" (20 seconds) providing a 20- second shorter interval between pages.
		0: 0 sec ( <b>Default</b> - Maximum interval; Minimum deviation from Default)
		1: 5 sec
		2: 10 sec
		3: 15 sec
		4: 20 sec (Minimum interval; Maximum deviation from Default)
		[0 to 4 / <b>0</b> / 1 /step]
002	Exhalation Table	<ul> <li>Temperature threshold can be changed with this SP.</li> <li>Note</li> <li>Amount of air purged increased with SP value of "1".</li> </ul>
		[0 to 1 / <b>0</b> / 1 /step]

2510* [Front Exh T	ime] Not Used
--------------------	---------------

001	[10 to 100 / <b>60</b> / 1 minute/step]	
2511*	[Rear Exh Ink Val]	
The amount of ink threshold can be set for flashing operation.		an be set for flashing operation.
001	К1	[0 to 10000 / <b>4500</b> / 5 /step]
002	К2	[0 to 10000 / <b>4500</b> / 5 /step]
003	С	[0 to 10000 / <b>2250</b> / 5 /step]
004	Μ	[0 to 10000 / <b>2250</b> / 5 /step]
005	Y	[0 to 10000 / <b>2250</b> / 5 /step]

2512*	[RearExh HeadCoeff] DFU	
001	К1	[0 to 2 / 1 / 0.1 /step]
002	К2	[0 to 2 / 1 / 0.1 /step]
003	С	[0 to 2 / <b>0</b> / 0.1 /step]
004	М	[0 to 2 / <b>1</b> / 0.1 /step]
005	Y	[0 to 2 / 1 / 0.1 /step]

2513*	[Idle Maint Time]	
	Idle maintenance time threshold can be set with these SPs.	
001	Idle Exhalation	Time from beginning of Idle to ink exhalation. [1 to 2160 / <b>10</b> / 1 hour/step]
002	Black: Cleaning	Specify elapsed time before cleaning.
003	Color: Cleaning B	[11 to 2160 / <b>168</b> / 1 hour /step]
004	Pour Out Ink	Specify elapsed time before executing ink supply sequence. [168 to 2160 / <b>720</b> / 1 hour /step]

## 2514\*

[Auto Cleaning Val]

5

	Automatic cleaning values can be set with this SP. The following shows the SP value, frequency and threshold.
	0: 1 time (100%)
	1: 1.5 times (67%)
	2: 2 times (50%)
	3: 3 times (33%)
001	4: 4 times (25%)
	5: 5 times (20%)
	6: 6 times (17%)
	7: 7 times (14%)
	8: 8 times (13%)
	9: 10 times (10%) Once every 30 papers
	[1 to 2160 / <b>0</b> / 1 hour/step]

2515	[Idle Cleaning Val]	
001	Executes automatic cleaning based on set number of prints.	
	[600 to 70 / <b>3600</b> / 60 sec/step]	

2516*	<b>[Full Exhalation]</b> This setting sets the near full threshold for flushing (via the flushing unit).	
001	Near Full Setting	[0 to 500000 / <b>342000</b> / 1 /step]
002	Full Setting	[0 to 1000 / <b>570</b> / 1 /step]

	[Mainte Mode Set]	
BitO: Sets the ON/OFF for air flag operation.		flag operation.
2910	Bit1: Controls the air in the tank.	
	Bit2 to 7: Not Used	
001	Setting	[0 to 0xFF / <b>0</b> / 1 /step]

## SP3-XXX (Process)

3001*	[Gamma Setting]
-------	-----------------

001	КІ	
002	К2	
003	С	DFU [1 to 9 / 5 / 1/step]
004	Μ	
005	Y	

	[Head: Gap Adj] Printer Head: Gap Adjustment Adjusts the head gap, referring to the adjustment sheet printed with SP3109-1 (300 or 3109-2 (1200 dpi).	
3002*		
001	300: A	
002	300: B	
003	300: C	
004	300: D	
005	300: E	[-100 to 100 / <b>0</b> / 1 dot/step]
006	300: F	
007	300: G	
008	300: H	
009	300: I	
010	1200: A	
011	1200: B	
012	1200: C	
013	1200: D	
014	1200: E	[-100 to 100 / 0 / 1/step]
015	1200: F	
016	1200: G	
017	1200: H	

018	1200: I	
021	300: A (Fact)	
022	300: B (Fact)	
023	300: C (Fact)	
024	300: D (Fact)	These values are factory settings.
025	300: E (Fact)	SP3002-001 to -009 are reset to these settings when
026	300: F (Fact)	SP5884-1 is done.
027	300: G (Fact)	
028	300: H (Fact)	
029	300: I (Fact)	
030	1200: A (Fact)	
031	1200: B (Fact)	
032	1200: C (Fact)	
033	1200: D (Fact)	These values are factory settings
034	1200: E (Fact)	SP3002-010 to -018 are reset to these settings when
035	1200: F (Fact)	SP5884-1 is done.
036	1200: G (Fact)	
037	1200: H (Fact)	
038	1200: I (Fact)	
		Precisely adjusts the gap in B/W printing mode.
041	1200: Ruled line	Do this SP only if result of executing "Standard" in the "Head Position Adjust" (User Tools > Maintenance > Adjustment > Head Position Adjustment) is not satisfactory.
		[-10 to 10 / 0 / 1/step]

	Prints an adjustment sheet for each print head adjustment. For details, refer to the "Image Adjustment" in section "Replace and Adjustment".	
001	Head: Gap Adj 300	This sheet is for the print head gap adjustment in 300 x 300 dpi.
002	Head: Gap Adj 1200	This sheet is for the print head gap adjustment in 1200 x 1200 dpi.
003	Nozzle Check	This sheet is for the nozzle pattern adjustment.
004	Sub Scan: Send Adj	This sheet is for the paper feeding amount adjustment.
005	Reg Adj	This sheet is for the main and sub scan registration adjustment.
006	Auto: Gap Adj 300	DFU
007	Auto: Gap Adj 1200	DFU
010	For Fact	DFU

3112*	[Print Mode Set] Print Mode Setting		
	Setting 1	[0 to 255 / <b>0</b> / 1/step]	
	BitO: Scanning method adjustn	nent	
	[0: Normal, 1: Always one-direction scanning (rear to front)]		
	It is possible to disable two-dir high quality printing settings w	is possible to disable two-direction scanning (front to rear: home position) to stay in gh quality printing settings whatever jobs a machine gets.	
	Bit1: One scanning mode for e	envelops	
001	[0: Normal, 1: Always one-direction scanning (rear to front) when the envelop set to "ON".] It is possible to disable two-direction scanning (front to rear: home position) to r high quality printing settings when the envelop lever is set to "ON".		
	Bit2 and 3: Image density adju	ustment in duplex copy mode	
	[Bit3: "0" and Bit2: "1", 80%]		
	[Bit3: "1" and Bit2: "0", 74%] [Bit3: "0" and Bit2: "0", Normal (80 to 98%)]		
	In copy mode, it is possible to through to the other side of the	reduce the amount of ink used to prevent image bleed- page when the duplex mode is used.	

	♦ Note	
	• In duplex print mode, it is not possible to change the density and fixed at 80%.	
	Bit4: Lower humidity peper transfer control	
	[0: Disable, 1: Enable]	
	Bit5: DFU	
	Bitó and 7: Not used	
002	Setting 2	DFU
003	Setting 3	DFU
	Setting 4	[0 to 255 / <b>10</b> / 1/step]
004	The 2 pass, 1/2 interlace print mode switches back to 1 pass, 1/2 print mode, when there is a flag value from 0 to 1. (Two pass meaning printing with the heads on both the forward pass across the page and also on the return pass.)	
	Bit0: HG plain paper	
	Bit1: Plain paper	
	Bit2 ro 7: Not Used	
	Setting 5	[0 to 255 / <b>10</b> / 1/step]
005	BitO to 4: Corresponding to initial filling	
000	Bit5,6: Not Used	
	Bit 7: Detecting main power switch (OFF)	
006	Setting 6	DFU
007	Setting 7	DFU
008	Setting 8	DFU
009	Setting 9	DFU
010	Setting 10	DFU
	Setting 11	[0 to 255 / <b>10</b> / 1/step]
011	Bit0: A filling pattern of the copy data security unit can be switched between white or black.	
	Bit1 to 7: Not used	
012	Setting 12	[0 to 255 / <b>10</b> / 1/step]

	Bit0 to3: Adjusts the ink supply time-out. Bit4 to 7: Not used	
013	Setting 13 DFU	
014	Setting 14	[0 to 255 / <b>10</b> / 1/step]
	Near end threshold can be changed. Bit0 to 3: Color near end threshold Bit4 to 7: Black near end threshold	
015	Setting 15	[0 to 255 / <b>10</b> / 1/step]
	Charge voltage specification of the paper trailing edge can be switched with bit7.	

3130*	[Head Rank (W Ptn)]	
001	К1	
002	К2	
003	С	DFU [0 to 7 / 0 / 1 /step]
004	Μ	
005	Y	

3131*	[Head Rank (Vol)]	
001	КІ	
002	К2	
003	С	DFU [0 to 7 / 0 / 1 /step]
004	М	
005	Y	

3803*	[Paper Feed ReDrv] Paper Feed drive retry Setting	
	Adjusts paper feed retry time (for each tray) when no-feed paper jam occurs.	
001	Retry Times	[0 to 5 / <b>0</b> / 1 /step]

## SP4-XXX (Scanner)

4008*	[Sub Scan Mag] (Scanner)	[-0.9 to +0.9 / <b>0.0</b> / 0.1%/step]
001	Adjusts the actual sub-scan direction scanni lower the scanner motor speed ( Copy A	ng magnification. The higher the setting, the djustments-Scanning).

4010	[LE Scan Regist] (Scanner)	[-2 to +2 / <b>0.0</b> / 0.1 mm/step]
001	Adjusts the leading edge registration for scanning in platen mode (& Copy Adjustments- Scanning).	
	<ul> <li>(-): The image moves toward the leading edge.</li> </ul>	
	<ul> <li>(+): The image moves toward the trailing edge-</li> </ul>	

4011*	[StoS Scan Regist] (Scanner)	[-2.5 to +2.5 / <b>0.0</b> / 0.1 mm/step]
001	Adjusts the side-to-side registration fo Scanning).	r scanning in platen mode (🖝 Copy Adjustments-
	<ul> <li>Increasing the value shifts the image to the right.</li> </ul>	
	<ul> <li>Decreasing the value shifts the image to the left.</li> </ul>	

	[Set Scale Mask]	
4012	4012 Adjusts the scanning margin individually for each of the four edges in book scanni ADF scanning. It is generally best to adjust the scanning margin as little as possible use the printing margin for image adjustments.	
001	Book: Sub: LEdge	[0 to 3 / <b>2</b> / 0.1 mm/step]
002	Book: Sub: TEdge	[0 to 3 / <b>0</b> / 0.1 mm/step]
003	Book: Main: LEdge	[0 to 3 / <b>2</b> / 0.1 mm/step]
004	Book: Main: TEdge	[0 to 3 / <b>0</b> / 0.1 mm/step]
005	ADF: Sub: LEdge	[0 + 2] / 2 / 0 + mm / stem]
007	ADF: Main: LEdge	
008	ADF: Main: TEdge	[0 to 3 / <b>0</b> / 0.1 mm/step]

4013	[Scanner Free Run]
------	--------------------

5

	Performs a scanner free run with the exposure lamp on or off. Press ON to start. Press OFF to stop.	
001	Lamp: ON	[0 or 1/ <b>0</b> / 1/step]
002	Lamp: OFF	0: Off, 1: ON

4014	[Scan]	
001	HP Detect: Enable	Enables scanner home position detection.
002	HP Detect: Disable	Disables scanner home position detection.

4020*	[Dust Check]		
001	Dust Detect: ON/OFF	Enables or disables the dust detection on the ADF scanning glass or the white plate. [0 or 1 / <b>0</b> / 1/step]	
002	Dust Detect: Lvl       Selects the dust detection level.         [ 0 to 8 / 4 / 1 /step]         0: lowest detection level         8: highest detection level		
003	Dust Reject: Lvl	Selects the level of the sub scan line correction when using the ADF. [ 0 to 4 / 0 / 1 /step] 0: Off, 1: Weakest, 2: Weak, 3: Strong, 4: Strongest	

4301	[APS Sns Chk]
001	Displays the status of the APS sensors and platen/DF cover sensor ( ADF/APS Sensor Output Display).

4303*	[APS Small Origin]	[ <b>0 = No</b> (not detected) / 1 = Yes (A5/HLT LEF)]
001	Selects whether or not the copier APS sensors cannot detect its size. I by the APS sensors are regarded original size" will be displayed.	will consider the original to be A5/HLT LEF when the f"Yes" is selected, paper sizes that cannot be detected as A5/HLT LEF. If "No" is selected, "Cannot detect

4305*	[APS Priority]	[ <b>0 = Unknown size</b> / 1 = A5/HLT LEF]
001	Selects paper size when machine detects smaller size than B5.	

4400	[Org Edge Mask]	Set the Mask for Original		
4400	This SP sets the area to be masked during platen (book) mode scanning.			
001	Book:Sub:LEdge			
002	Book:Sub:TEdge			
003	Book:Main:LEdge			
004	Book:Main:TEedge	[0 to 3.0 / <b>0</b> / 0.1 mm/step]		
005	ADF:Sub:LEdge			
007	ADF:Main:LEdge			
008	ADF:Main:TEdge			

4417	[IPU Test Pattern]		Set IPU Test Pattern		
	Use t	his SP to select the IPU te	st pattern	to prir	nt.
	Test Pattern		[0to25,	[Oto25/0/1/step]	
	0	Scanned Image	•	13	Grid CMYK
	1	Grad M A		14	Color CMYK
	2	Grad M B		15	Gray Pat 1
001	3	Grad M C		16	Gray Pat 2
	4	Grad M D		17	Gray Pat 3
	5	Grad Sub Scan 1		18	Shading
	6	Grid Pattern		19	Thin Line
	7	Slant grid Pattern		20	Scn + Grid
	8	Grd RGBCMYK		21	Scn + Gray B
	9	UCR pattern		22	Scn + Color
	10	Color 16 1		23	Scn + S + Gdc

11	Color 16 2	24	Scn + S + GdD
12	Color Patch 64	25	H rank Pt

4429	ICI Output Level
001	[35 to 255 / <b>128</b> / 1/step]

4440	[Saturation Adj]	Adjust Color Saturation
	This SP adjusts the saturation level for copying.	
	[0 to 5 / <b>3</b> / 1/step]	
	0: High	
	1 : Lowest	
	2: Lower	
	3: Default	
	4: Higher	
	5: Highest	

4450	[Scan Img Pas Swch] Scan Image Path Switch		
001	Bk Subt ON/OFF	[0 or 1 / 1 / - ] 0: OFF, 1: ON	
	Uses or does not use the black reduction image path.		
002	SH Pas ON/OFF [0 or 1 / 0 / - ] 0: OFF, 1: ON		
	Uses or does not use the shading image path.		

4460	[Digital AE set] Digital AE Setting FA	
001	Low Limit Set	[0 to 1024 / <b>364</b> / 4 digit/step]
002	Back Ground Level	[512 to 1532 / <b>972</b> / 1 digit/step]]

	[Print Coverage] Print Cover	rage Correction
4540 This SP corrects printer coverage of 12 hues (RY, YR, YG, etc. x G, B) for a total of 48 parameters.		rage of 12 hues (RY, YR, YG, etc. x 4 Colors (Option, R, meters.
001 - 004	RY: Option, R, G, B	[-128 to +128 / <b>0</b> / 1/step]

005 – 008	YR: Option, R, G, B
009 – 012	YG: Option, R, G, B
013 – 016	GY: Option, R, G, B
017 – 020	GC: Option, R, G, B
021 – 024	CG: Option, R, G, B
025 – 028	CB: Option, R, G, B
029 – 032	BC: Option, R, G, B
033 – 036	BM: Option, R, G, B
037 – 040	MB: Option, R, G, B
041 - 044	MR: Option, R, G, B
045 – 048	RM: Option, R, G, B

4550	[SApli: TxtPrt] Scanner Application: Text/Picture Mode	
4551	[SApli:TxtOCR1] Scanner Ap	plication: Text Mode
4552	[SApli:TxtOCR2] Scanner Ap	plication: Text/Drop Out
4553	[SApli: T/P] Scanner Applica	tion: Text/Photo
4554	[SApli: Photo] Scanner Applic	cation: Photo
4565	[SApli: GrayScale] Scanner Application: Gray Scale	
4570	[SApli: Color T/P] Scanner Application: Text/Photo	
4571	[SApli: Color P]: Text/Printing Paper	
	MTF Lvl: 0-15	[0 to 15 / <b>8</b> / 1/step]
005	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.	
004	Smooth:0-7	[0 to 15 / <b>4</b> / 1/step]
008	Use to remove "jaggies" if they appear. Set higher for smoother.	
007	Brightness: 1-255 [1 to 255 / <b>128</b> / 1/step]	

	Set higher for darker, set lower for lighter.	
000	Contrast: 1-255	[1 to 255 / <b>128</b> / 1/step]
008	Set higher for more contrast, set lower for less contrast.	
009	Standoff:1-7	[0 to 7 / <b>0</b> / 1/step]
	Sets the Erasure level of Irregular Dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated	

4580	[FaxApli: TxPrt] Fax Application: Text/Picture Mode		
4581	[FaxApli: Txt] Fax Application: Text		
4582	[FaxApli: T/P] Fax Application	n: Text/Photo	
4583	[FaxApli: Photo] Fax Applicat	ion: Photo	
4584	[FaxApli: Original1] Fax App	lication: Original 1	
4585	[FaxApli: Original2] Fax App	lication: Original 2	
	MTF Lvl: 0-15	[0 to 15 / <b>8</b> / 1/step]	
005	Sets the MTF level (Modulatio Set higher for stronger effect,	Sets the MTF level (Modulation Transfer Function) designed to improve image contrast. Set higher for stronger effect, lower for weaker effect.	
006	Smooth:0-7	[0 to 15 / <b>4</b> / 1/step]	
008	Use to remove "jaggies" if the	y appear. Set higher for smoother.	
007	Brightness: 1-255	[1 to 255 / <b>128</b> / 1/step]	
007	Set higher for darker, set lower for lighter.		
008	Contrast: 1-255	[1 to 255 / <b>128</b> / 1/step]	
008	Set higher for more contrast, set lower for less contrast.		
	Standoff: 1-7	[0 to 7 / <b>0</b> / 1/step]	
009	Sets the erasure level of irregular dots. Set higher for stronger effect, lower for weaker effect. 0: Not activated		
010	Texture:1-2	[0 to 2 / <b>0</b> / 1/step]	

	This SP (suffix "-010") only exists in SP4580, 4582 and 4583.
Sets the erasure level of textur 0: Not activated	res. Set higher for stronger effect, lower for weaker effect.

4600	[Display SBU ID]	
001		Displays the board version of the SBU. First production model indicates "0". [0 to7 / <b>0</b> / 1/step]

4602	[SBU Mem Access] SBU Mem	nory Access Not Used
001	SBU Mem Access	-
002	Set Address	-
003	Set Data	-

4603	[Do AGC] Auto Gain Control Execution	
001	HP Detect: Enable	Executes the AGC.
002	HP Detect: Disable	DFU

4604	[Open/Close FGATE] DFU
001	Opens or closes the FGATe signal. This SP automatically returns to the default status (close) after exiting this SP. [0 or 1 / <b>0</b> / 1/step] 0: OFF, 1: ON

4606	[Wht Lvl Adj: R] White Level Adjustment: Red DFU	
001	This value is the target value of red for the white level adjustment. [0 to 1024 / <b>784</b> / 1 degit/step]	

4607	[Wht Lvl Adj: G] White Level Adjustment: Green DFU	
001	This value is the target value of green for the white level adjustment.	

[0 to 1024 / <b>784</b> / 1 degit/step]	
4608	[Wht Lvl Adj: B] White Level Adjustment: Blue DFU
001	This value is the target value of blue for the white level adjustment.

001 [0 to 1024 / **784** / 1 degit/step]

4623	[BkLvl Adj: ValueR] Black Level Adjustment: Current Value of Red	
4624	[BkLvl Adj: ValueG] Black Level Adjustment: Current Value of Green	
	[BkLvl Adj: ValueB] Black Level Adjustment: Current Value of Blue	
4625	CrsAdj: Rough Adjustment, FinAdj: Fine Adjustment RE (GE or BE): Red (Green or Blue) Even signal, RO (GO or BO): Red (Green or Blue) Odd signal	
001	CrsAdj: RE (GE or BE) Clr	
002	CrsAdj: RO (GO or BO) Clr	or odd color (red, green or blue) signal in the
003	FinAdj: RE (GE or BE) Clr	CCD circuit board (color printing speed).
004	FinAdj: RO (GO or BO) Clr	
005	CrsAdj: RE (GE or BE) Bk	
006	CrsAdj: RO (GO or BO) Bk	or odd color (red, green or blue) signal in the
007	FinAdj: RE (GE or BE) Bk	CCD circuit board (B/W printing speed).
008	FinAdj: RO (GO or BO) Bk	

4628	[Gain Adj: ValueR] Gain Adjustment: Current Value of Red	
4629	[Gain Adj: ValueG] Gain Adjustment: Current Value of Green	
4630	[Gain Adj: ValueB] Gain Adjustment: Current Value of Blue	
	R: Red, G: Green, B: Blue	
001	Value: R(G or B)Even Clr	Displays the gain value of the amplifiers on the
002	Value: R(G or B)Odd Clr	controller tor each color (red, green or blue) in color printing mode. [0 to 255 / <b>0</b> / 1 digit/step]

003	Value: R(G or B)Even Bk	Displays the gain value of the amplifiers on the
004 Value: R(G or	Value: R(G or B)Odd Bk	controller tor each color (red, green or blue) in B/ W printing mode.
		[0 to 255 / <b>0</b> / 1 digit/step]

4640	[Bk Lvl Adj Loop] Black Level Adjustment Loop	
4040	Adj1: First adjustment, Adj2: Second adjustment	
001	Adj1:Clr	
002	Adj1:BK	Displays the black level adjustment time for each mode.
003	Adj2:Clr	[0 to 20 / <b>0</b> / 1 time/step]
004	Adj2:BK	

4641	[White Lvl Loop] White Level Adjustment Loop	
001	Color	Displays the white level adjustment time for each mode.
002	B/W	[0 to 20 / <b>0</b> / 1 time/step]

4646	[Read Adj Timeout] Read Adjustment Timeout	
001	Bk Offset Adj1	Displays the result of the AGC adjustment. If the AGC
002	Bk Offset Adj2	adjustment tails, SC141 (Bk LvI) or SC142 (White LvI) occurs.
003	Wht Lvl Adj	[0 or 1 / <b>0</b> / 1/step] 0: OK, 1: AGC adjustment failure

001       At Power On       Displays the result of the SBU connection check.         16       the SBU connection check fails, SC144-001, -002 or         -003 occurs.       [0 or 1 / 0 / 1/step]         0: OK, 1: SBU connection check failure	4647	[Read Hard Error] Read Hard Error	
	001	At Power On	Displays the result of the SBU connection check. If the SBU connection check fails, SC144-001, -002 or -003 occurs. [0 or 1 / <b>0</b> / 1/step] 0: OK, 1: SBU connection check failure

4654	[BkLvl Adj: PrevR] Black Level Adjustment: Previous Value of Red
------	--

4655	[BkLvl Adj: PrevG] Black Level Adjustment: Previous Value of Green	
4656	[BkLvl Adj: PrevB] Black Level Adjustme	ent: Previous Value of Blue
	Displays the previous vale of the black	level adjustment for each color.
	CrsAdj: Rough Adjustment, FinAdj: Fine	Adjustment
	RE (GE or BE): Red (Green or Blue) Even signal, RO (GO or BO): Red (Green or Blue) Odd signal	
001	CrsAdj: RE (GE or BE) Clr	[0 to 255 / <b>112</b> / 1 divis/stor]
002	CrsAdj: RO (GO or BO) Clr	
003	FinAdj: RE (GE or BE) Clr	[0 to 255 / <b>129</b> / 1 divit/stor]
004	FinAdj: RO (GO or BO) Clr	
005	CrsAdj: RE (GE or BE) Bk	[0+255] (112 (1 diam)/dec]
006	CrsAdj: RO (GO or BO) Bk	
007	FinAdj: RE (GE or BE) Bk	[0 to 255 / <b>129</b> / 1 divit/stor]
008	FinAdj: RO (GO or BO) Bk	

4658	[Gain Adj: PrevR] Gain Adjustment: Previous Value of Red	
4659	[Gain Adj: PrevG] Gain Adjustment: Previous Value of Green	
4660	[Gain Adj: PrevB] Gain Adjustment: Previous Value of Blue	
	Displays the previous value of the gain adjustment for each color. RE (GE or BE): Red (Green or Blue) Even signal, RO (GO or BO): Red (Green or Blue) Odd signal	
001	S Prev: RE (GE or BE) Clr	
002	S Prev: RO (GO or BO) Clr	[0 + 255 / 0 / 1 digit/stop]
003	S Prev: RE (GE or BE) BK	
004	S Prev: RO (GO or BO) Bk	

4661	[BkLvl2 Adj: PrevR] Black Level2 Adjustment: Previous Value of Red
4662	[BkLvl2 Adj: PrevG] Black Level2 Adjustment: Previous Value of Green

4663	[BkLvl2 Adj: PrevB] Black Level2 Adjustment: Previous Value of Blue		
	Displays the previous vale of the second black level adjustment for each color.		
	CrsAdj: Rough Adjustment, FinAdj: Fine Adjustment		
	RE (GE or BE): Red (Green or Blue) Even signal, RO (GO or BO): Red (Green or Blue) Odd signal		
001	CrsAdj: RE (GE or BE) Clr	[0 + 255 / 112 / 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1	
002	CrsAdj: RO (GO or BO) Clr		
003	FinAdj: RE (GE or BE) Clr	$[0 + 255 / 129 / 1 + \frac{1}{2} + 1$	
004	FinAdj: RO (GO or BO) Clr		
005	CrsAdj: RE (GE or BE) Bk	[0 to 255 / <b>112</b> / 1 digit/step]	
006	CrsAdj: RO (GO or BO) Bk		
007	FinAdj: RE (GE or BE) Bk	[0 + 255 / 129 / 1 disit/step]	
008	FinAdj: RO (GO or BO) Bk		

	[BkLvl Adj: FactR] Black Level Adjustment: Factory Setting of Red	
4673	Displays the factory setting values of the black level adjustment.	
	CrsAdj: Rough Adjustment, FinAdj: Fine Adjustment	
	RE: Red Even signal, RO: Red Odd signal	
001	CrsAdj: RE Clr	[0 to 255 / <b>112</b> / 1 digit/stop]
002	CrsAdj: RO Clr	
003	FinAdj: RE Clr	[0 + 255 / 129 / 1 disit/stan]
004	FinAdj: RO Clr	
005	CrsAdj: RE Bk	[0 + 255 / 112 / 1 disit/stan]
006	CrsAdj: RO Bk	
007	FinAdj: RE Bk	[0 to 255 / <b>129</b> / 1 digit/stop]
008	FinAdj: RO Bk	

	Displays the factory setting values of the black level adjustment.	
	CrsAdj: Rough Adjustment, FinAdj: Fine Adjustment	
	GE: Green Even signal, GO: Green Odd signal	
001	CrsAdj: GE Clr	[0 to 255 / <b>112</b> / 1 digit/stop]
002	CrsAdj: GO Clr	
003	FinAdj: GE Clr	[0 to 255 / <b>128</b> / 1 digit/stop]
004	FinAdj: GO Clr	
005	CrsAdj: GE Bk	[0 to 255 / <b>112</b> / 1 divis/storn]
006	CrsAdj: GO Bk	
007	FinAdj: GE Bk	[0 to 255 / <b>128</b> / 1 digit / stop]
008	FinAdj: GO Bk	

	[BkLvl Adj: FactB] Black Level Adjustment: Factory Setting of Blue	
4675	Displays the factory setting values of the black level adjustment.	
	CrsAdj: Rough Adjustment, FinAdj: Fine Adjustment	
BE: Blue Even signal, BO: Blue Odd signal		jnal
001	CrsAdj: BE Clr	[0 to 255 / <b>112</b> / 1 digit/stop]
002	CrsAdj: BO Clr	
003	FinAdj: BE Clr	[0 to 255 / <b>129</b> / 1 divit/stow]
004	FinAdj: BO Clr	
005	CrsAdj: BE Bk	[0 to 255 / <b>112</b> / 1 divit/stor]
006	CrsAdj: BO Bk	
007	FinAdj: BE Bk	[0 to 255 / <b>129</b> / 1 digit/stop]
008	FinAdj: BO Bk	

	[Gain Adj: FactR] Gain Adjustment: Factory Setting of Red
4677	Displays the factory setting values of the gain adjustment.
	RE: Red Even signal, RO: Red Odd signal

001	Factini: RE Clr	
002	Factini: RO Clr	$[0+0.55] (0 (1) + t_{t_{t_{t_{t_{t_{t_{t_{t_{t_{t_{t_{t_{t$
003	Factini: RE BK	
004	Factini: RO Bk	

	[Gain Adj: FactG] Gain Adjustment: Factory Setting of Green	
4678	Displays the factory setting values of the gain adjustment. GE: Green Even signal, GO: Green Odd signal	
001	Factini: GE Clr	
002	Factini: GO Clr	$\left[0 + 255 \right] \left( \frac{0}{1} \right) = \left[ \frac{1}{1} + $
003	Factini: GE BK	
004	Factini: GO Bk	

	[Gain Adj: FactB] Gain Adjustment: Factory Setting of Blue	
4679	Displays the factory setting values of the gain adjustment. BE: Blue Even signal, BO: Blue Odd signal	
001	Factini: BE Clr	
002	Factini: BO Clr	$\left[0 + 255 \right] \left( \frac{1}{2} \right)$
003	Factini: BE BK	
004	Factini: BO Bk	

4495	[Gray Balance: R] Gray Balance Adjustment: Red	
4065	Adjusts the gray balance of re	d signal for each scanning mode. <b>DFU</b>
001	For Book Read	[510+511/240/14init/44m]
002	For DF Read	- [-312 to 311 / -240 / 1 digit/step]

4686	[Gray Balance: G] Gray Balance Adjustment: Green	
	Adjusts the gray balance of green signal for each scanning mode. <b>DFU</b>	

001	For Book Read	[512 to 511 / <b>240</b> / 1 digit / stop]
002	For DF Read	[-31210311 / <b>-240</b> / 1 digit/siep]

4497	[Gray Balance: B] Gray Balance Adjustment: Blue	
4007	Adjusts the gray balance of blue signal for each scanning mode. <b>DFU</b>	
001	For Book Read	[512 to 511 / <b>240</b> / 1 digit/stop]
002	For DF Read	

	[DF Density Adj] DF Density Adjustment	
4688	Adjusts the white shading parameter when scanning an image with the ARDF. Adjusts the density level if the image density of outputs made in the DF and Platen mo is different.	
001	[50 to 150 / <b>109</b> / 1%/step]	

4690	[White Lvl Peak: R] White Level Scanning Peak Value: Red	
4691	[White Lvl Peak: G] White Level Scanning Peak Value: Green	
4692	[White Lvl Peak: B] White Level Scanning Peak Value: Blue	
001	RE (GE or BE)	
002	RO (GO or BO)	Displays the peak level of the white level scanning.
003	RE (GE or BE) BK	[0 to 1024 / <b>0</b> / 1 digit/step]
004	RO (GO or BO) Bk	

4693		[Black Lvl Scan: R] Black Level Scanning Peak Value: Red	
4694		[Black Lvl Scan: G] Black Level Scanning Peak Value: Green	
4695		[Black Lvl Scan: B] Black Level Scanning Peak Value: Blue	
	001	RE (GE or BE)	
	002	RO (GO or BO)	Displays the peak level of the white level scanning.
	003	RE (GE or BE) BK	

004	RO (GO or BO) Bk	
	[DF Shade FreeRun] DF Free Run for Shading	
4802	Executes the scanner free run o "OFF" to stop this free run. Othe	f shading movement with exposure lamp on or off. Press erwise, the free run lasts.

001	Lamp On	[0 or 1 / <b>0</b> / - ]
002	Lamp Off	0: OFF, 1: ON

4804	[Home Position] Scanner Home Position Adjustment	
001		Checks the scanner home position movement.

4806	[Carriage Escape]	
001		Moves the carriage from the scanner home position. Dust may fall through the DF exposure glass. Therefore, do this SP when you transport this machine for a long term.

4903*	[Image Quality Adj]	
	This SP is for Independent dot erase	
001	Dot Erase:Text [0 to 7 / 2 / 1 /step]	
002	Dot Erase:Gen	0: Not to perform
		1: Weakest performing
		to
		7: Strongest performing

4904	[Test Scan IPU] Test Scanner IPU Board	
	Performs a write and read check of the ASICs on the scanner IPU board and displays the result. Turn off and on after doing this SP.	
001	Test 1	Bit0: ASIC0 image register
		Bit1: ASIC0 serial register
		Bit2: ASIC1 register
		Bit3: ASIC1 register

		Bit4: ASIC1 register
		Bit5: ASIC3 register
		Bit6: ASIC2 register
		Bit7: ASIC4 (MC) register
		Bit8: ASIC4 (YK) register
		0: OK, 1: Error
		Bit0: ASIC0 image register
	Test 2	Bit1: ASIC0 serial register
		Bit2: ASIC1 register
000		Bit3: ASIC1 register
		Bit4: ASIC1 register
002		Bit5: ASIC3 register
		Bit6: ASIC2 register
		Bit7: ASIC4 (MC) register
		Bit8: ASIC4 (YK) register
		0: OK, 1: Error

4905	[Dither Select] DFU	
001		Changes the parameters for error diffusion.
001	-	[0 to 255 / <b>0</b> / 1/step]

4007	[SBU Pattern]		
4907	Selects the test pattern generated by the controller board.		
001 -		[0 to 255 / <b>0</b> / 1/step]	
	-	0: Default (Scanned image)	
		1: Grid pattern	
		2: Gradation main scan	
		3: Gradation sub scan	
		4 to 250: Default (Scanned image)	

4909	[Man Gamma: P ColK] Manual Gamma Adjustment: Photo Mono-Black
4910	[Man Gamma: Txt: K] Manual Gamma Adjustment: Text Black

4911		[Man Gamma: Txt: C] Manual Gamma Adjustment: Text Cyan		
4912		[Man Gamma: Txt: M] Manual Gamma Adjustment: Text Magenta		
4913		[Man Gamma: Txt: Y] Manua	l Gamma Adjustment: Text Yellow	
4914		[Man Gamma: T: ColK] Manu	ual Gamma Adjustment: Text Mono-Black	
4915		[Man Gamma: Pht: K] Manua	l Gamma Adjustment: Photo Black	
4916		[Man Gamma: Pht: C] Manua	ıl Gamma Adjustment: Photo Cyan	
4917		[Man Gamma: Pht: M] Manual Gamma Adjustment: Photo Magenta		
4918		[Man Gamma: Pht: Y] Manual Gamma Adjustment: Photo Yellow		
	001	Offset: Highlight		
	002	Offset: Middle	Adjusts the offset data of the printer gamma for each	
	003	Offset: Shadow	[0 to 30 / <b>15</b> / 1/step]	
	004	Offset: IDmax		
	005	Option: Highlight		
	006	Option: Middle	Adjusts the option data of the printer gamma for each	
	007	Option: Shadow	[0 to 255 / <b>0</b> / 1/step]	
	800	Option: IDmax		

4991	[IPU Img Path Sel] IPU Image Path Switch			
	Use this SP to determine the image path. Enter the number to be selected using the 10-key pad.			
	RGB Frame Mem         [0 to 11 / 2 / 1/step]			
	0	Scanner input RGB images		
001	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	

4993	[Highlight Cor] Highlight Correction		
001	Sensibility	[0 to 9 / <b>4</b> / 1/step]	
	Selects the Highlight correction level. 0: Weakest sensibility, 9: Strongest sensibility		
	Region	[0 to 9 / <b>4</b> / 1/step]	
002	Selects the range level of Highlight correction. 0: Weakest skew correction, 9: Strongest skew correction		

## SP5-XXX (Mode)

5001	[All Indicators On]
001	All LEDs turn on. The LCD turns on or off every 3 seconds. Press the reset key to end this program.

5024*	[mm/inch Selection]			
<ul> <li>Selects whether mm or inches are used in the display.</li> <li><b>Note</b></li> <li>001</li> <li>After selecting the number, you must turn the main power switch off and o</li> </ul>				
			Europe/Asia model: [ <b>0</b> : <b>mm</b> / 1: inch]	
			American model: [0: mm / 1: inch]	

5045	[Accounting count]		
5045 001	Counter Method	*CTL	Selects the counting method if the meter charge mode is enabled with SP5-930-001. [0 to 2 / 1 / -] 0: Developments, 1: Pages, 2: Coverage range

5051	[Refill Toner Displ] Refill Toner Detection Display			
5051	Enables or disables the toner refill detection display.			
001	Toner Refill Detection Display	*CTL	[ 0 or 1 / <b>0</b> /- ] 0: ON, 1: OFF	

5055	[Display IP address]		
001	Display IP address	*CTL	Display or does not display the IP address on the LCD. [0 or 1 / <b>0</b> / -] 0: Not display, 1: Display

5056	[Coverage Counter]		
001	Coverage Counter	*CTL	Display or does not display the coverage counter on the LCD. [0 or 1 / <b>0</b> / -] 0: Not display, 1: Display

5104*	[A3 Double Count] SSP		
5104	A3 Double Count	*CTL	[ <b>0 = No</b> / 1 = Yes / 2 = No Unclear]
001	Selects whether the machine counts twice for each sheet of A3/11"x 17". If this is set to "Yes" is selected, the total (mechanical) counter and the current user counter will both increment by two for each A3/11" x 17" sheet.		

5112	[Non-Std. Paper Set] Non-Standard Paper Set	
001	Determines whether a non-standard paper size can be input for the universal cassette trays (Tray 2, Tray 3)	

[0 or 1 / 0 / - ]
0: No
1: Yes. If "1" is selected, the customer will be able to input a non-standard paper size using the UP mode.

5113	[Optional Counter Type]		
001	Default Optional Counter Type	*CTL	This program specifies the counter type. <b>0: None</b> 1: Key card (RK 3, 4) 2: Key card (down) 3: Prepaid card 4: Coin Rack 5: MF key card 8: Key counter + Vendor 9: Bar-code Printer
002	External Optional Counter Type	*CTL	<ul> <li>This program specifies the external counter type.</li> <li><b>0: None</b></li> <li>1: External optional counter type 1</li> <li>2: External optional counter type 2</li> <li>3: External optional counter type 3</li> </ul>

5114	[Optional Counter I/F]	
001	MF Key Card Exte	

5118	[Disable Copying]	*CTL	[ <b>0</b> : Not disabled/ 1: Disabled]
001	This program disables copying.		

5120*	Mode Clear Opt. Counter Removal	*CTL	[ <b>0=Yes</b> / 1=Standby only / 2=No]
001	Determines under which conditions the copy job settings are reset when the key counter is removed. With 0, the settings are cleared if the counter is removed at the end of a job or midway through a job. With 1, they are only cleared if the counter is removed at the end		

of a job. With 2, they are not cleared at all, under either condition. With duplex copies,
the job settings are always preserved, regardless of the setting of this SP mode.

5121*	Count Up Timing	*CTL	[ <b>0 = Feed In</b> / 1 = Exit]
001	Selects whether the key counter increments at time of paper feed-in or at time of paper ex		

5127	[APS Mode]	*CTL	[ <b>0</b> : Not disabled/ 1: Disabled]
001	This program disables the APS.		

5128	[Code Mode With Key/ Card]	*CTL	-
001	DFU		

5131	[Size For Dest]	[0: DOM (Japan)/1: NA /2: EU or ASIA]
001	The program selects a paper size system from the following alternatives: the AB system (0), the LT system (1), and the AF system (2). (Default depends on DIP SW 101 setting.)	

5150	[Bypass Long Paper]	*CTL	[0 or 1 / <b>0</b> / 1 /step] 0: OFF, 1: ON	
001	Determines whether the transfer sheet from the Bypass tray is used or not. Normally the paper length for sub scanning paper from the bypass tray is limited to 600 mm, but this can be extended with this SP to 1260 mm.			

	[Set Time]			
	Adjusts the RTC (real time clock) time setting for the local time zone.			
	Examples: For Japan (+9 GMT), enter 540 (9 hours x 60 min.)			
	DOM: +540 (Tokyo)			
5302	NA :-300 (New York)			
	EU :+ 60 (Paris)			
	CH :+480 (Peking)			
	TW :+480 (Taipei)			
	AS :+480 (Hong Kong)			
002	Time Difference	*CTL#	[-1440 to 1440 / <b>Area</b> / 1 min./step ]	
------	--	--	--	--
5307	[Summer Time]			
001	ON/OFF	-	[ 0 or 1 / <b>NA, EU, ASIA</b> / 1 /step] 0: Disabled 1: Enabled NA and EUR: 1, ASIA: 0	
	<ul> <li>Enables or disables the summer time mode.</li> <li>Note</li> <li>Make sure that both SP5-307-3 and -4 are correctly set. Otherwise, this SP is not activated even if this SP is set to "1".</li> </ul>			
003	Start       -         Specifies the start setting for the summer time mode.         There are 8 digits in this SP. For months 1 to 9, the "O" cannot be input in the first digit, so the eight-digit setting for -2 or -3 becomes a seven-digit setting.         1 st and 2nd digits: The month. [1 to 12]         3rd digit: The week of the month. [1 to 5]         4th digit: The day of the week. [0 to 6 = Sunday to Saturday]         5th and 6th digits: The hour. [00 to 23]         7th digit: The length of the advanced time. [0 to 9 / 1 hour /step]         8th digit: The length of the advanced time. [0 to 5 / 10 minutes /step]         For example: 3500010 (EU default)         The timer is advanced by 1 hour at am 0:00 on the 5th Sunday in March         • The digits are counted from the left.         • Make sure that SP5-307-1 is set to "1".			
004	End Specifies the end setting There are 8 digits in this 1 st and 2nd digits: The 3rd digit: The week of the 4th digit: The day of the 5th and 6th digits: The b	for the summe SP. month. [1 to 12 ne month. [0 to week. [0 to 6 nour. [00 to 23	- r time mode. 2] 5] = Sunday to Saturday] ]	

• The digits are counted from the left.	
• Make sure that SP5-307-1 is set to "1".	

5404	[User Code Clear]
001	Clears the counts for the user codes assigned by the key operator to restrict the use of the machine. Press [Execute] to clear.

5401	[Access Control]				
5401	When installing the SDK application, SAS (VAS) adjusts the following settings. DFU				
200	SDK1 Unique ID	*CTL	This ID is overwritten by SAS (VAS) when you install or uninstall the SDK application.		
201	SDK1 Certification Method	*CTL	[ 0 to 255 / <b>0</b> / 1 /step] <b>DFU</b>		
210	SDK2 Unique ID	*CTL	DFU		
211	SDK2 Certification Method	*CTL	[ 0 to 255 / <b>0</b> / 1 /step] <b>DFU</b>		
220	SDK3 Unique ID	*CTL	DFU		
221	SDK3 Certification Method	*CTL	[ 0 to 255 / <b>0</b> / 1 /step] <b>DFU</b>		

5501	[PM Alarm Interval]	*CTL	-	
001	Printout	[ 0 to 9999 / <b>0</b> / 1 /step]		
		0: Alarm off		
		1 to 99 1000 ≥	99: Alarm goes off when Value (1 to 9999) x : PM counter	
002	ADF	[ 0 or 1	/1/-]	
		0: No c	ılarm sounds	
		1: Alarr through	n sounds after the number of originals passing the A(R)DF ≥ 10,000	

5504	[Jam Alarm]	*CTL	-
------	-------------	------	---

	Sets the alarm to sound for the specified jam level (document misfeeds are not included).
001	[0 to 3 / <b>3</b> / 1 /step]
	0: Zero (Off), 1: Low (2.5K jams), 2: Medium (3K jams), 3: High (6K jams)

5505*	[Error Alarm]
	Sets the error alarm level.
001	The error alarm counter counts "1" when any SC is detected. However, the error alarm counter decreases "1" when any SC is not detected during specified sheets of copies (for example, default 1500 sheets).
	The error alarm occurs when the SC error alarm counter reaches "5".
	[0 to 255 / <b>15</b> / 100 copies per step]

5507	[Supply Alarm]	*CTL	-	
001	Paper Size	<b>0</b> : Off, 1:	On, <b>DFU</b>	
002	Staple	<b>0</b> : Off, 1:	On, <b>DFU</b>	
003	Toner	<b>0</b> : Off, 1:	On, <b>DFU</b>	
080	Toner Call Timing	Changes the timing of the "Toner Supply Call" via the NRS, when the following conditions occur. 0: Toner is replaced		
		1: Toner r	near end or End	
128	Interval :Others			
132	Interval :A3	_		
133	Interval :A4			
134	Interval :A5			
141	Interval :B4	[250 to 10000 / <b>1000</b> / 1 /step] <b>DFU</b>		
142	Interval :B5			
160	Interval :DLT			
164	Interval :LG			
166	Interval :LT	-		

172	Interval :HLT			
5508*	[Auto Call Setting]	*CTL -		
001*	Jam Remains	0: Disable, 1: Enable		
	Enables/disables initiating a call for an unattended paper jam.			
000*	Frequent Jams	0: Disable, 1: Enable		
002	Enables/disables initiating a call for consecutive paper jams.			
002*	Door Open	0: Disable, 1: Enable		
003	Enables/disables initiating a call when the front door remains open.			
	Jam Remains: Time	[3 to 30 / <b>10</b> / 1 minute /step]		
011*	Sets the time a jam must remain before it becomes an "unattended paper jam". This setting is enabled only when SP5508 004 is set to 1.			
	Freq Jam: # of Time	[2 to 10 / <b>5</b> / 1 /step]		
012*	Sets the number of consecutive paper jams required to initiate a call. This setting is enabled only when SP5508 004 is set to 1.			
	Door Open: Time	[3 to 30 / <b>10</b> / 1 minute/step]		
013*	Sets the length of time the door remains open before the machine initiates a call. This setting is enabled only when SP5508 004 is set to 1.			

	[SC/Alarm Setting]	*CTL -			
5515	5515 With NRS (New Remote Service) in use, these SP codes can be set to issue an SC can be set to issue an SC can SC error occurs. If this SP is switched off, the SC call is not issued when an SC occurs.				
001	SC Call				
002	Service Parts Near End	[0  or  1 / 1 / -]			
003	Service Parts End				
004	User Call	- 0: Off, 1: On			
006	Communication Test				

007	Machine Information	
008	Alarm Notice	
009	Non Genuine Toner	
010	Supply Automatic Order	$\begin{bmatrix} 0 & z \\ z & 1 \end{bmatrix} = \begin{bmatrix} 0 & z \\ z & z \end{bmatrix} = \begin{bmatrix} 0 & z \\ z & z \end{bmatrix} = \begin{bmatrix} 0 & z \\ z & z \end{bmatrix}$
011	Supply Management Report	[0 or 1 / 0 / -] 0: Off, 1: Off
012	Jam/Door Open Call	[0 or 1 / <b>1</b> / -] 0: Off, 1: On

5610	[ACC Factory Value]		
004	Value	-	-
	Recalls the factory settings.		
005	Value Setting	-	-
	Overwrites the current values onto the factory settings.		
006	Restore Org	-	-
	Recalls the previous settings	•	

5801	<b>[Memory Clear]</b> Before executing any of these SP codes, print an SMC Report.			
	All Clear			
001	Initializes items SP5801-002 to -014 below. Turn off and on the main power switch after executing this SP.			
002	Engine	-	-	
002	Clears the engine settings.			
003	SCS	-	-	
	Clears the system settings.			
004	ІМН	-	-	
	Clears IMH data. DFU			
005	MCS	-	-	

	Clears MCS data. <b>DFU</b>		
004	Copier	-	-
008	Clears the copy application	settings.	
007	Fax	-	-
007	Clears the fax application s	ettings.	
008	Printer	-	-
008	Clears the printer application	on settings.	
000	Scanner	-	-
009	Clears the scanner applicat	ion settings	
	GWWS/NFA	-	-
010	Delete the netfile application management files and thumbnails, and initializes the job login ID.		
	NCS	-	-
011	Initializes the system default and interface settings (IP address also), SmartNetMonitor for Admin, WebStatusMonitor settings, and the TELNET settings.		
	● Note		
	• The name of Apple talk is not cleared only if this SP is executed. Turns off and on after executing this SP		
	R-FAX	-	-
012	Initializes the job login ID, SmartNetMonitor for		
	Admin, job history, and loca	al storage f	ile numbers.
014	Clear DCS Setting	-	-
	Initializes the DCS (Delivery	Control Se	ervice) settings.
015	Clear UCS Setting	-	-
	Initializes the UCS (User Info	ormation C	ontrol Service) settings.
014	MIRS Setting	-	-
016	Initializes the MIRS (Machir	ne Informati	on Report Service) settings.

017	CCS	-	-		
	Initializes the CCS (Certifica	tion and C	harge-control Service) settings.		
010	SRM Memory Clr	-	-		
018	Initializes the SRM (System Resource Manager) settings.				
019	LCS	-	-		
	Initializes the LCS (Log Cour	nt Service) :	settings.		

5902	INPUT CHECK
5603	(🖝 Input Check)

5904	OUTPUT CHECK
5604	(🖝 Output Check)

5807	[Destin./Model]				
	Destination Code	[0 to 7 / 0 / 1]			
		0: Japan, 1: NA, 2: EU, 3: Asia			
		4: China, 5: Formosa, 6: Korea, 7: Other			

5811	[Machine Serial] Machine Serial Number		
001	Set	-	(🖝 Serial Number Input)
002	Display	-	Displays the machine serial number.

5812	[Service TEL]		
001	Telephone	*CTL	-
	Sets the telephone number for a service representative. This number is printed on the Counter List, which can be printed with the user's "Counter" menu. This can be up to 20 characters (both numbers and alphabetic characters can be input).		
002	Facsimile	*CTL	-
	Sets the fax or telephone number for a service representative. This number is printed on the Counter List.		

	This can be up to 20 characters (both numbers and alphabetic characters can be input).			
003	Supply	*CTL	-	
	Use this to input the telephone number of your supplier for consumables. Enter the number and press "StringIn" key.			
	Press the "Clear modes" key to delete the telephone number.			
004	Sales	*CTL	-	
	Use this to input the telephone number of your sales agency. Enter the number and press #.			
	Press the "Clear modes" key	y to delete t	the telephone number.	

5816	[NRS Function]	*CTL	-
001	I/F Setting	Selects the remote service setting. [ 0 to 2 / 2 / 1 /step] 0: Remote service off 1: CSS remote service on 2: NRS remote service on	
002	CE Call	Performs t [0 or 1 / 0: Start of <b>Note</b> • This "2".	the CE Call at the start or end of the service. <b>0</b> / 1 /step] the service, 1: End of the service SP is activated only when SP 5816-001 is set to
003	Function Flag	Enables o [0 or 1 / 0: Disable	or disables the remote service function. <b>0</b> / 1 /step] ed, 1: Enabled
007	SSL Disable	Uses or does not use the RCG certification by SSL when calling the RCG. [0 or 1 / <b>0</b> / 1 /step] 0: Uses the RCG certification 1: Does no use the RCG certification	
008	RCG Connect T/O	Specifies the connect timeout interval when calling the RCG.	

		[1 to 90 / <b>10</b> / 1 second/step]		
009	RCG Write Timeout	Specifies the write timeout interval when calling the RCG. [1 to 100 / <b>60</b> / 1 second/step]		
010	RCG Read Timeout	Specifies the read timeout interval when calling the RCG. [1 to 100 / <b>60</b> / 1 second/step]		
011	Port 80	Enables/disables access via port 80 to the SOAP method. [0 or 1 / <b>0</b> / – ] 0: Disabled, 1: Enabled		
	Function Flag			
021	This SP displays the Cumin i 1: Installation completed 2: Installation not completed	nstallation end flag. d		
	Install Status			
022	This SP displays the Cumin installation status. O: Basil not registered 1: Basil registered 2: Device registered			
	Connect Mode (N/M)			
023	This SP displays and selects the Cumin connection method. <b>0</b> : Internet connection 1: Dial-up connection			
	NotiTime ExpTime <b>DFU</b>			
061	Proximity of the expiration of the certification.			
	HTTP Proxy Use			
062	This SP setting determines if the proxy server is used when the machine communicates with the service center.			
	HTTP Proxy Host			
063	This SP sets the address of th the gateway. Use this SP to so is necessary to set up Cumir	e proxy server used for communication between Cumin-N and et up or display the customer proxy server address. The address n-N.		

	<b>↓</b> Note			
	• The address display is limited to 127 characters. Characters beyond the 127th character are ignored.			
	• This address is customer information and is not printed in the SMC report.			
	HTTP Proxy Port			
064	This SP sets the port number of the proxy server used for communication between Cumin- N and the gateway. This setting is necessary to set up Cumin-N. <b>Note</b>			
	Inis port number is customer information and is not printed in the SMC report.			
	HTTP Proxy Aut Usr			
	This SP sets the HTTP proxy authentication user name.			
065	♦ Note			
	<ul> <li>The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored.</li> </ul>			
	• This name is customer information and is not printed in the SMC report.			
	HTTP Proxy Aut Pass			
	This SP sets the HTTP proxy authentication password.			
066	♦ Note			
	• The length of the password is limited to 31 characters. Any character beyond the 31 st character is ignored.			
	• This name is customer information and is not printed in the SMC report.			
	Cer Updt Cond			
	Displays the status of the certification update.			
	0 The certification used by Cumin is set correctly.			
067	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.		
	Cer A	bnml Cause		
068	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.		
	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 certification was issued.		
	6	Notification that GW URL does not exist.		

069	Cert Updtt ReqID
	The ID of the request for certification.
083	Firm Updating
	Displays the status of the firmware update.
0.9.4	Firm UpFlg No HDD
084	This setting determines if the firmware can be updated, even without the HDD installed.
	Firm Up Usr Conf
085	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.
	Firmware Size
086	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.
0.07	CERT: Macro Vsn
087	Displays the macro version of the NRS certification.
088	CERT: PAC Vsn
000	Displays the PAC version of the NRS certification.
	CERT: ID2 Code
089	Displays ID2 for the NRS certification. Spaces are displayed as underscores (_). Asterisks () indicate that no NRS certification exists.
	CERT: Subject
090	Displays the common name of the NRS certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks () indicate that no DESS exists.
001	CERT: Seri Num
091	Displays serial number for the NRS certification. Asterisks () indicate that no DESS exists.
092	CERT: Issuer

	Displays the common name of the issuer of the NRS certification. CN = the following 30 bytes. Asterisks () indicate that no DESS exists.
093	CERT: St ExpTime
	Displays the start time of the period for which the current NRS certification is enabled.
00.4	CERT: End ExpTime
094	Displays the end time of the period for which the current NRS certification is enabled.
	Ins Country
150	<ul> <li>Select from the list the name of the country where Cumin-M is installed in the machine. After selecting the country, you must also set the following SP codes for Cumin-M:</li> <li>SP5816-153</li> <li>SP5816-154</li> </ul>
	• SP5816-161
	0: Japan, 1: USA, 2: Canada, 3: UK, 4: Germany, 5: France 6: Italy, 7: Netherlands, 8: Belaium, 9: Luxemboura, 10: Spain
	Aut Line Detect
	Press [Execute].
151	Setting this SP classifies the telephone line where Cumin-M is connected as either dial-up or push type, so Cumin-M can automatically distinguish the number that connects to the outside line.
	• The current progress, success, or failure of this execution can be displayed with SP5816 152.
	• If the execution succeeded, SP5816 153 will display the result for confirmation and SP5816 154 will display the telephone number for the connection to the outside line.
	Line Detect Rst
152	Displays a number to show the result of the execution of SP5816151. Here is a list of what the numbers mean.
	0: Success
	1: In progress (no result yet). Please wait.
	2: Line abnormal
	3: Cannot detect dial tone automatically
	4: Line is disconnected

	5: Insufficient electrical power supply
	6: Line classification not supported
	7: Error because fax transmission in progress – ioctl() occurred.
	8: Other error occurred
	9: Line classification still in progress. Please wait.
	Dial/Push Select
	This SP displays the classification (tone or pulse) of the telephone line to the access point for Cumin-M. The numbered displayed (0 or 1) is the result of the execution of SP5816 151. However, this setting can also be changed manually.
	[Oto1/0/1]
153	0: Tone Dialing Phone
	1: Pulse Dialing Phone
	Inside Japan "2" may also be displayed:
	0: Tone Dialing Phone
	1: Pulse Dialing Phone 10PPS
	2: Pulse Dialing Phone 20PPS
	Outline Phone #
	The SP sets the number that switches to PSTN for the outside connection for Cumin-M in a system that employs a PBX (internal line).
154	<ul> <li>If the execution of SP5816-151 has succeeded and Cumin-M has connected to the external line, this SP display is completely blank.</li> </ul>
	• If Cumin-M has connected to an <b>internal</b> line, then the number of the connection to the external line is displayed.
	<ul> <li>If Cumin-M has connected to an external line, a comma is displayed with the number. The comma is inserted for a 2 sec. pause.</li> </ul>
	• The number setting for the external line can be entered manually (including commas).
	Dial Up User
156	Use this SP to set a user name for access to remote dial-up. Follow these rules when setting a user name:
	Name length: Up to 32 characters
	<ul> <li>Spaces and # allowed but the entire entry must be enclosed by double quotation marks (").</li> </ul>
157	Dial Up Password

	Use this SP to set a password for access to remote dial-up. Follow these rules when setting a user name:
	Name length: Up to 32 characters
	<ul> <li>Spaces and # allowed but the entire entry must be enclosed by double quotation marks (").</li> </ul>
	Phone Number
161	Use this SP to set the telephone number of the line where Cumin-M is connected. This number is transmitted to and used by the Call Center to return calls.
	Limit: 24 numbers (numbers only)
	Ans Timing Adj
162	When the Call Center calls out to a Cumin-M modem, it sends a repeating ID tone (*#1#). This SP sets the line remains open to send these ID tones after the number of the Cumin-M modem is dialed up and connected.
	[0 to 24/1/1/step]
	The actual amount of time is this setting x 2 sec. For example, if you set "2" the line will remain open for 4 sec.
	Access Point
163	This is the number of the dial-up access point for Cumin-M. If no setting is done for this SP code, then a preset value (determined by the country selected) is used.
	Default: 0
	Allowed: Up to 16 alphanumeric characters
	Comm Line
	This SP sets the connection conditions for the customer. This setting dedicates the line to Cumin-M only, or sets the line for sharing between Cumin-M and a fax unit.
	[0 or 1 / <b>0</b> / - ]
164	0: Line shared by Cumin-M/Fax
	1: Line dedicated to Cumin-M only
	♦ Note
	• If this setting is changed, the copier must be cycled off and on.
	• SP5816 187 determines whether the off-hook button can be used to interrupt a Cumin-M transmission in progress to open the line for fax transaction.
173	Modem Serial Numr

	This SP displays the serial number registered for the Cumin-M.			
174	Lmt Resend Cncl			
	Normally, it is best to allow unlimited time for certification and ID2 update requests, and for the notification that the certification has been completed. However, Cumin-M generates charges based on transmission time for the customer, so a limit is placed upon the time allowed for these transactions.			
	time restriction.			
	FAX TX Priority			
	This SP determines whether pushing the off-hook button will interrupt a Cumin-M transmission in progress to open the line for fax transaction. This SP can be used only if SP5816-164 is set to "0".			
187	[0 or 1/0/-]			
	0: Disable. Setting the fax unit off-hook does not interrupt a fax transaction in progress. If the off-hook button is pushed during a Cumin-M transmission, the button must be pushed again to set the fax unit on-hook after the Cumin-M transmission has completed.			
	1: Enable. When Cumin-M shares a line with a fax unit, setting the fax unit off-hook will interrupt a Cumin-M transmission in progress and open the line for a fax transaction.			
200	Polling Man Exc			
200	Executes the polling test.			
	Instl: Condition			
	Displays a number that indicates the status of the NRS service device.			
	0: Neither the NRS device nor Cumin device are set.			
201	1: The Cumin device is being set. Only Box registration is completed. In this status, the Basil unit cannot answer a polling request.			
	2: The Cumin device is set. In this status, the Basil unit cannot answer a polling request.			
	3: The NRS device is being set. In this status, the Cumin device cannot be set.			
	4: The NRS module has not started.			
000	Instl: ID#			
202	Allows entry of the number of the request needed for the Cumin device.			
202	Instl: Reference			
203	Executes the inquiry request to the NRS GW URL.			

-	Instl: Ref Rslt
	Displays a number that indicates the result of the inquiry executed with SP5816-203.
	0: Succeeded
	1: Inquiry number error
	2: Registration in progress
204	3: Proxy error (proxy enabled)
	4: Proxy error (proxy disabled)
	5: Proxy error (Illegal user name or password)
	6: Communication error
	7: Certification update error
	8: Other error
	9: Inquiry executing
	Instl: Ref Section
205	Displays the result of the notification sent to the device from the GW URL in answer to the inquiry request. Displayed only when the result is registered at the GW URL.
204	Instl: Rgstltn
200	Executes Cumin Registration.
	Instl: Rgstltn Rst
	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
208	Instl Error Code

	Cause	Code	Meaning	
	Illegal Modem Parameter	-11001	Chat parameter error	
		-11002	Chat execution error	
		-11003	Unexpected error	
		-12002	Inquiry, registration attempted without acquiring de status.	
	Operation Error, Incorrect Setting	-12003	Attempted registration without execution of an inqu and no previous registration.	
		-12004	Attempted setting with illegal entries for certification ID2.	
		-2385	Attempted dial up overseas without the correct international prefix for the telephone number.	
		-2387	Not supported at the Service Center	
		-2389	Database out of service	
		-2390	Program out of service	
	5 0 11	-2391	Two registrations for same device	
	Error Caused by Response from GW	-2392	Parameter error	
	URL	-2393	Basil not managed	
		-2394	Device not managed	
		-2395	Box ID for Basil is illegal	
		-2396	Device ID for Basil is illegal	
		-2397	Incorrect ID2 format	
		-2398	Incorrect request number format	
200	Instl Clear			
209	Releases a machine from its Cumin setup.			

	Prints the communication log.	
5821	[NRS Address]	
001	CSS-PI Device	Sets the PI device code. After you change this setting, you must turn the machine off and on.
002	RCG IP Address	Sets the IP address of the RCG (Remote Communication Gate) destination for call processing at the remote service center. [00000000h to FFFFFFh/1]

5824	NVRAM Upload
001	(🖝 NVRAM Upload)

5825	NVRAM Download
001	(  NVRAM Download)

5828	[Network Setting]	*CTL		
050	1284 Compatibility (Centro)	Enables or disables 1284 Compatibility. [0 or 1 / <b>1</b> / 1 / step] 0: Disabled, 1: Enabled		
052	ECP (Centro)	Enables or disables ECP Compatibility. [0 or 1 / 1 / 1 / step] 0: Disabled, 1: Enabled 1. This SP is activated only when SP5-828-50 is set to "1".		
065	Job Spooling	Enables/disables Job Spooling. [0 or 1 / <b>0</b> / 1 / step] 0: Disabled, 1: Enabled		
066	Job Spooling Clear: Start Time	Treatment of the job when a spooled job exists at power on. 0: ON (Data is cleared) 1: OFF (Automatically printed)		

5828	[Network Setting]	*CTL			
		Validates or invalidates the job spooling function for each protocol.			
		0: Valid	ates		
		1: Invali	dates		
		bitO: LPF			
040	lah Spaaling (Protocol)	bit1: FTF			
007		bit2: IPP			
		bit3: SN	18		
		bit4: BN	1LinkS		
		bit5: DII	PRINT		
		bit6: (Re	eserved)		
		bit7: (Re	eserved)		
		Enables or disables the Telnet protocol.			
090	TELNET (0: OFF 1: ON)	[ 0 or 1 / 1 / – ]			
		0: Disable, 1: Enable			
		Enables or disables the Web operation.			
091	Web (0: OFF 1: ON)	[ 0 or 1	/1/-]		
		0: Disab	ole, 1: Enable		
	Operation IPv6 Link Local Address	5			
145	This is the IPv6 local address link re the format:	eferenced	on the Ethernet or wireless LAN (802.11b) in		
	"Link Local Address" + "Prefix Length"				
	The IPv6 address consists of a tota	l 128 bits	configured in 8 blocks of 16 bits each.		
147	Operation IPv6 Status Address 1		These SPs are the IPv6 status addresses (1		
149	Operation IPv6 Status Address 2		to 5) referenced on the Ethernet or wireless		
151	Operation IPv6 Status Address 3		"Status Address" + "Prefix Length"		
153	Operation IPv6 Status Address 4		The IPv6 address consists of a total 128 bits		
155	Operation IPv6 Status Address 5		configured in 8 blocks of 16 bits each.		
156	IPv6 Manual Setting Address				

5828	[Network Setting]	*CTL					
	This SP is the IPv6 manually set address referenced on the Ethernet or wireless LAN (802.11b) 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.						
	IPv6 Gateway Address						
	This SP is the IPv6 gateway address referenced on the Ethernet or wireless LAN (802.11b). 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 (80 Length". The IPV6 address consists aaaa:bbbb:cccc:dddd:eeee:ffff:gg	)2.11) re of 128 b gg:hhhh:	ference the IPV6 "Link-Local address + Prefix its divided into 8 blocks of 16 bits:				
	The prefix length is inserted at the 1 is 0x40 (64).	he prefix length is inserted at the 17th byte (Prefix Range: 0x0 to 0x80). The initial setting s 0x40 (64).					
	For example, the data: "2001123456789012abcdef012345678940h" is expressed:						
	"2001:1234:5678:9012:abcd:ef	01:2345	5:6789": prefixlen 64				
	However, the actual IPV6 address	display is	abbreviated according to the following rules.				
	Rules for Abbreviating IPV6 Addresses						
158	The IPV6 address is expressed in hexadecimal delimited by colons (:) with the following characters:						
	0123456789abcdefABCDEF						
	1. A colon is inserted as a delimiter every 4th hexadecimal character.						
	fe80:0000:0000:0000:020	7:40ff:00	000:340e				
	2. 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						
	3. 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						
	-or-						
	fe80:0:0:0:207:40ff::340e(d	only the lo	ast null set before "340e" is abbreviated as "::")				

5828	[Network Setting]	*CTL			
161	IPv6 Stateless Auto Setting				
	Enables or disables the automatic setting for IPv6 stateless.				
	[0 or 1 / 1 / 1 /step]				
	0: Disable, 1: Enable				

5832	[HDD] HDD Initialization	*CTL	
001	Format ALL		
002	HDD Formatting (IMH)		
003	Format Thumbnail		
004	Format Job Log		
005	Format Font		
006	Format User Info	Initializes the hard disk. Use this SP mode on there is a hard disk error.	
007	Format Rec Mail		
008	Format Sed Mail	_	
009	Formatting DFU Data		
010	Formatting All Log		
011	Format Ridoc I/F		

5839	[IEEE1394]	*CTL					
		<b>DFU:</b> Turns the cycle master function on/off.			<b>DFU:</b> Turns the cycle master function on/off.		
007	Cycle Master	[0 or 1 / <b>1</b> /	l /step]				
		0: OFF, 1: ON					
008	BCR mode	<b>DFU:</b> Selects either 'Standard', 'IRM Color Copy', or 'Always Effective'.					
		DFU: Turns the IRM 1394a check on/off.					
009   IRM 1394a Check   [0 or 1 / <b>0</b> / - ]		]					
		0: OFF, 1: ON					

		If the IRM is not defined as 1394a standard, its node is used as IRM.
010	Unique ID	DFU [0 or 1 / 1 / -] 0: OFF, 1: ON
011	Logout	<ul> <li>DFU: Prevents initiators from logging on or makes initiators log off.</li> <li>[0 or 1 / 1 / -]</li> <li>0: OFF</li> <li>(Prevents the initiators, having already logged on, to log on if they try to log on.)</li> <li>1: ON</li> <li>(Makes initiators, having already logged on, to log off if they try to log on.)</li> </ul>
012	Login	<ul> <li>DFU: Allows/disallows an initiator to exclusively log on.</li> <li>[0 or 1 / 0 / - ]</li> <li>0: OFF (Disallows), 1: ON (Allows)</li> </ul>
013	Login MAX	<b>DFU:</b> Specifies the maximum initiators able to log on. [0 to 63 / <b>8</b> / 1 /step]

5840	[IEEE 802.11b]					
	Channel MAX	*CTL	[1 to 11 or 13 / <b>11</b> or <b>13</b> / 1 /step] L Europe: 1 to 13, default: 13 NA/ Asia: 1 to 11, default: 11			
006	Sets the maximum number of channels available for data transmission via the wireless LAN. The number of channels available varies according to location. The default settings are set for the maximum end of the range for each area. Adjust the upper 4 bits to set the maximum number of channels. <b>DFU</b> • Do not change the setting.					
007	Channel MIN [1 to 11 or 13 / 1 / 1 /step] *CTL Europe: 1 to 13 NA/ Asia: 1 to 11					
	Sets the minimum number of channels available for data transmission via the wireless LAN. The number of channels available varies according to location. The default settings are set					

	for the minimum end of the range for each area. Adjust the lower 4 bits to set the minimum number of channels. <b>DFU</b>					
	♥Note					
	• Do not change the setting.					
	WEP Key Select	*CTL	[00 to 11 / 00 / 1 binary]			
			00: Key #1			
			01: Key #2 (Reserved)			
011			10: Key #3 (Reserved)			
			11: Key #4 (Reserved)			
	Selects the WEP key.					

5841	[Supply Name]		
001	Toner Name: Bk	*CTL	
002	Toner Name: C		Specifies supply names. These appear on the
003	Toner Name: Y		screen when the user presses the Inquiry button in
004	Toner Name: M		the user tools screen.
007	Org Stamp		

5842	[GWWS Analysis] DFU				
	Setting 1				
	This is a debugging tool. It sets the debugging output mode of each Net File process. Default: Bit SW 1000 0000	Bit	Groups		
		0	System & other groups (LSB)		
		1	Capture related		
001		2	Certification related		
		3	Address book related		
		4	Machine management related		
		5	Output related (printing, delivery)		
		6	Repository related		

		7	Debug log output		
002	Setting 2				
	Default: Bit SW 0000 0000	Bit	Groups		
		0-6	Not used		
			Log time stamp setting		
		7	0: Date/Hour/Minute/Second		
			1: Minute/Second/Msecond		

5844	USB
	Transfer Rate
001	Sets the speed for USB data transmission.
	[Full Speed]
	[Auto Change]
	Vendor ID
002	Sets the vendor ID:
	Initial Setting: 0x05A Ricoh Company
	[0x0000 to 0xFFFF/1] <b>DFU</b>
	Product ID
003	Sets the product ID.
	[0x0000 to 0xFFFF/1] <b>DFU</b>
	Device Release No.
004	Sets the device release number of the BCD (binary coded decimal) display.
	[0000 to 9999/1] <b>DFU</b>
	Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD.

5945	[Delivery Server Setting]	*CTL	-	
5645	Provides items for delivery server settings.			
001	FTP Port Num	[ 0 to	65535 / <b>3670</b> / 1 /step]	

	Sets the FTP port number used when image files to the Scan Router Server.				
	Srv IP (Primary)	Range: 000.000.000.000 to 255.255.255.255			
002	Use this SP to set the Scan Router Server address. The IP address under the transfer tab can be referenced by the initial system setting.				
	Delivery Error Disp Time	[ 0 to 999 / <b>300</b> / 1 second /step]			
006	Use this setting to determine the leng test error occurs during document tr device.	gth of time the prompt me ansfer with the NetFile a <sub>l</sub>	essage is displayed when a oplication and an external		
	Srv IP (Secondary)	Range: 000.000.000.0	<b>000</b> to 255.255.255.255		
008 Specifies the IP address assigned to the computer designated to fur delivery server of Scan Router. This SP allows only the setting of the reference to the DNS setting.			to function as the secondary g of the IP address without		
	Deli Srv Model	[0 to 4 / <b>0</b> / 1 /step]			
009	Allows changing the model of the delivery server registered by the I/O device. 0: Unknown, 1: SG1 Provided, 2: SG1 Package, 3: SG2 Provided, 4: SG2 Package				
	Deli Svr Capability	[ 0 to 255 / <b>0</b> / 1 /step]			
	Bit7 = 1 Comment information exits	Changes the capability of the server that is registered as an I/O device.			
	Bit6 = 1 Direct specification of mail				
	Bit5 = 1 Mail RX confirmation setting				
010	Bit4 = 1 Address book automatic up				
	Bit3 = 1 Fax RX delivery function ex				
	Bit2 = 1 Sender password function				
	Bit1 = 1 Function to link MK-1 user	and Sender exists	1		
	Bit0 = 1 Sender specification requir to "0")	ed (if set to 1, Bitó is set			
	Deli Svr Capability (Ext)	[ 0 to 255 / <b>0</b> / 1 /ste	[q:		
011	Changes the capability of the server that is registered as an I/O device.				
	Bit7 = 1 Address book usage limitation (Limitation for each authorized user)				

	Bit6 = 1 RDH authorization link				
	Bit5 to 0: Not used				
012	Svr Schm (Primary)	-			
013	Specifies the scheme of the primary	delivery server.			
014	Svr Port Num (Pri)	-			
014	Specifies the port number of the prin	nary delivery server.			
015	Srv URL Path (Pri)	-			
015	Specifies the URL path of the primar	y delivery server.			
014	Svr Schm (Sec)	-			
010	Specifies the scheme of the secondary delivery server.				
017	Svr Port Num (Sec)	-			
017	Specifies the port number of the secondary delivery server.				
019	Srv URL Path (Sec)	-			
010	Specifies the URL path of the secondary delivery server.				
010	CapSvr Schm	-			
019	Specifies the scheme of the capture server.				
020	CapSvr Prt Num	-			
020	Specifies the port number of the capture server.				
021	CapSrv URL Path	-			
021	Specifies the URL path of the s captu	Jre server.			

5846	[UCS Settings]	*CTL	-	
	Machine ID (For Delivery Serv	er)		Displays ID
001	Displays the unique device ID in use by the delivery server directory. The value is on displayed and cannot be changed. This ID is created from the NIC MAC or IEEE 13 EUI. The ID is displayed as either 6-byle or 8-byte binary.		ery server directory. The value is only ated from the NIC MAC or IEEE 1394 e binary.	
002	Machine ID Cl (For Delivery S	erver)		Clears ID

5846	[UCS Settings]	*CTL	-	
	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		[150 to 999 / <b>150</b> / 1 /step]	
003	Changes the maximum number of entries that UCS can handle. If a value smaller than the present value is set, the UCS managed data is cleared, and th data (excluding user code information) is displayed.			S can handle. UCS managed data is cleared, and the ed.
	Deli Srv Rtry Tmer			[0 to 255 / <b>0</b> / 1 /step]
006	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.			ry server fails to acquire the delivery
	Deli Srv Retry Tmes			[0 to 255 / <b>0</b> / 1 /step]
007	Sets the number of retry attemp server address book.	ots when t	he delive	ry server fails to acquire the delivery
008	Deli Srv Max Entri			[200 to 999 / <b>200</b> / 1/step]
010	LDAP Search Tmeout		[1 to 25	55 / 60 / 1 /step]
010	Sets the length of the timeout for the search of the LDAP server.			
	[AddrBMig (SD-> HDD)] Address Book Migration (SD-> HDD)			
040	<ul> <li>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.</li> <li>When you do this SP without a HDD, SC991 occurs.</li> <li>Note</li> <li>We recommend that you back up all directory information to an SD card with SP5846-051 before you execute this SP.</li> </ul>			
	[AddrB Acl Info] Address Book Access Control List Information			
041	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.			

5846	[UCS Settings]	*CTL		-
047	Ini Local Add B	C th	Cleo he i	ars the local address book information, including user code.
048	Ini Delivery Add B	C	Cleo	ars the distribution address book information, ept the user code.
049	Init LDAP Add B	C th	Cleo he i	ars the LDAP address book information, except user code.
050	Ini All Add B	C in Tu e:	Cleo nclu urr	ars all directory information managed by UCS, uding all user codes. a off and on the main power switch after cuting this SP.
051	Backup All Addr Book	U	Jplo	oads all directory information to the SD card.
052	Restore All Add B	D	Downloads all directory information from t card.	
	Clear Backup Info			
	Deletes the address book data from the SD card in the service slot.			
	Deletes only the files that were uploaded from this machine.			
053	This feature does not work if the card is write-protected.			
	♦ Note			
	<ul> <li>After you do this SP, go out of the SP mode, and then turn the power off. Do not remove the SD card until the Power LED stops flashing.</li> </ul>			
	Search Option			
	This SP uses bit switches to set up the fuzzy search options for the UCS local address book.			
060	BitO: Checks both upper/lower case characters			
	Bit 1 : Japan only			
	Bit2 to 7: Not used			
	Compl Opt1			
062	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to <b>upper case</b> and sets the length of the password.			

5846	[UCS Settings]	*CTL	-		
	●Note				
	<ul> <li>This SP does not normally require adjustment.</li> </ul>				
	<ul> <li>This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.</li> </ul>				
	Compl Opt2				
	Use this SP to set the conditions Specifically, this SP limits the po password.	for passv assword e	vord entry to access the local address book. entry to <b>lower case</b> and defines the length of the		
063	[0 to 32 / 0 / 1 /step]				
	• This SP does not normally	require a	djustment.		
	<ul> <li>This SP is enabled only aft policy to control access to</li> </ul>	ter the sys the addr	tem administrator has set up a group password ess book.		
	Compl Opt3				
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to <b>numbers</b> and defines the length of the password.				
064	[0 to 32 / <b>0</b> / 1 /step]				
	↓Note				
	• This SP does not normally	require a	djustment.		
	<ul> <li>This SP is enabled only aft policy to control access to</li> </ul>	ter the sys the addr	tem administrator has set up a group password ess book.		
	Compl Opt4				
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to <b>symbols</b> and defines the length of the password.				
065	[0 to 32 / <b>0</b> / 1 /step]				
	♦ Note				
	• This SP does not normally	require a	djustment.		
	<ul> <li>This SP is enabled only aft policy to control access to</li> </ul>	ter the sys the addr	tem administrator has set up a group password ess book.		

5846	[UCS Settings]	*CTL	-
091	FTP Auth Port Setting	Sp ad [0	ecifies the FTP port for getting a distribution server dress book that is used in the identification mode. to 65535 / <b>3671</b> / 1 /step]
094	Encryption Stat	Sh ad	ows the status of the encryption function for the dress book data.

	[Web Service]	*CTL	-			
5848	SP5848-1 sets the 4-bit switch assig has no effect on access and delivery ac: Access Control	ignment for the access control setting. Setting of 0001 ry from Scan Router.				
	ac: Netfile (Lower 4 bits only)	Bit switch settings.				
001	0000: No access control 0001: Denies access to DeskTop Bir effect on capture.	nder. Acc	ess and deliveries from Scan Router have no			
004	ac: UD (only Lower 4 bits)					
005	ac: For Cherry (only Lower 4 bits)					
007	ac: Log Fax (Lower 4 bits)	Switches access control on and off.				
009	ac: Job Ctrl (Lower 4 bits)	<ul> <li>0000: No access control</li> <li>0001: Denies access to DeskTop Binder.</li> </ul>				
011	ac: Dev Mng (Lower 4 bits)					
022	ac: Uadmin (Lower 4bits)					
210	Log Type: Job 1					
211	Log Type: Job2					
212	Log Type: Access	Display	s the log server settings.			
213	Primary Srv	These c	an be adjusted with the Web Image Monitor.			
214	Secondary Srv					
215	Start Time					
216	Interval Time	Specifie [1 to 10	es the transmit interval. 200 / 1 / 1 hour/step]			

		This SP is activated only when SP5848-217 is set to "2 (Transmit periodically)".
217	Timing	Selects the transmit timing. [0 to 2 / <b>0</b> / 1/step] 0: No Transmit, 1: Transmit one by one 2: Transmit periodically

5849	[Installation Date]				
	Displays or prints the installation date of the machine.				
001	Display The "Counter Clear Day" has been changed to "Installation D or "Inst. Date".				
002	Print	Determines whether the installation date is printed on the printout for the total counter. [0 or 1/1/1/step] 0: No Print, 1: Print			

5851	[Bluetooth]
	Mode
001	Sets the operation mode for the Bluetooth Unit. Press either key. <b>0</b> :Public, 1: Private

	[Remote ROM Update]			
5856	Allows the technician to upgrade the firmware using a parallel cable when updating remote ROM.			
002	Local Port	*CTL	[0 or 1 / 0 / 1/step] 0: Not allowed 1: Allowed	

5857	[Debug Log Save]	*CTL	-
001	ON/OFF (1:ON 0:OFF)	<b>0</b> : ON, 1	: OFF

	Switches the debug log feature on and off. The debug log cannot be captured until this feature is switched on.			
	Target (2: HDD 3: SD)	<b>2</b> : HDD, 3: SD Card		
002	Selects the storage device to save SP5-858 are satisfied. [ 2 to 3 / <b>2</b> / 1 /step]	debug logs information when the conditions set with		
	Save to HDD	DFU		
005	Saves the debug log in memory to A unique file name is generated to to 4MB can be copied to the HDD.	the HDD. avoid overwriting existing file names on the HDD. Up 4 MB segments can be copied one by one to the HDD.		
006	Save to SD Card			
009	HDD to SD Latest (Latest 4 MB)			
010	HDD to SD Any (Latest 4 MB Any Key)			
011	Erase HDD Debug	Erase HDD Debug		
012	Erase SD Debug			
013	Dsply-SD Space			
014	SD to SD Latest (Latest 4 MB)			
015	SD to SD Any (Latest 4 MB Any Key)			
016	Make HDD Debug			
017	Make SD Debug			

	[Debug Log Save: SC]		*CTL	-	
5858	These SPs select the content of the debugging information to be saved to the destination selected by SP5857-2.				
	SP5858-3 stores one SC specified by number. Refer to Section 4 for a list of SC error codes.				
001	Engine SC Error	Turns copie [0 or 0: OF	on/off the r engine er 1 / <b>0</b> / 1/ F, 1: ON	debug save for SC codes generated by rors. ' step]	

002	Controller SC Error	Turns on/off the debug save for SC codes generated by GW controller errors. [0 or 1 / <b>0</b> / 1/ step] 0: OFF, 1: ON
003	Any SC Error	[0 to 65535 / <b>0</b> / 1 /step]
004	Jam	Turns on/off the debug save for jam errors. [0 or 1 / <b>0</b> / 1/ step] 0: OFF, 1: ON

5859	[Debug Log Save Key]	*CTL	-		
001	Key 1				
002	Key 2				
003	Кеу З				
004	Key 4				
005	Key 5	These SPs allow you to set up to 10 keys for log files			
006	Кеу б	$\frac{1}{2} \left[ -99999999 \text{ to } 9999999 / 0 / - \right]$			
007	Key 7				
008	Key 8				
009	Key 9				
010	Key 10				

5860	[SMTP/POP3/IMAP4]	*CTL	-		
	Partial Mail Rec Tout         [1 to 168 / 72 / -]				
020	Sets the amount of time to wait received mail is discarded if the prescribed time.	before sa e remainir	ving a mo ng portior	ail that breaks up during reception. The a of the mail is not received during this	
	MDN Res RFC2298 [0 to 1 / 1 / - ]				
021 Determines whether RFC2298 compliance is switched on for MDN reply mail. 0: No, 1: Yes		ched on for MDN reply mail.			

	SMTP Aut. From Field Rep	[0 to 1 / <b>0</b> / - ]			
022	Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated.				
	SMTP Aut. Direct Set [0 or 1 / 0 / -]				
	Selects the authentication method for SMPT.				
	Bit switch:				
	Bit 0: LOGIN				
025	Bit 1: PLAIN				
020	Bit 2: CRAM MD5				
	Bit 3: DIGEST MD5				
	• Bit 4 to 7: Not used				
	♦ Note				
	• This SP is activated only when SMTP authorization is enabled by UP mode.				

5866	[E-mail Report] Not Used			
001	Report Validity Enables or disables the E-mail of	- alert functi	[ 0 or 1 / <b>0</b> / – ] 0: Enabled, 1: Disabled on.	
005	Add Date Field	*CTL	[ 0 or 1 / <b>0</b> / – ] 0: Not add, 1: Add	
005	Adds or does not add the date field to the header of the alert mail.			

5869	[RAM Disk Setting] Not Used		
002	PDL Storage	GWINIT	[0 to 255 / <b>4</b> / 1 /step]
	Specifies the RAM disk storage size for PDL.		

5870	[Common Key	[Common Key Info Writing]				
001	Writing	*CTL	Writes to flash ROM the common proof for validating the device for NRS specifications.			
003	Initialize	*CTL	Formats the common proof area of the flash ROM. <b>FA</b>			

5873	[SD Card Appli Move]	
001	Move Exec	This SP copies the application programs from the original SD card in the SD card slot 3 to an SD card in the SD card slot 2.
002	Undo Exec	This SP copies back the application programs from an SD card in the SD Card Slot 3 to the original SD card in the SD card slot 2. Use this menu when you have mistakenly copied some programs by using "Move Exec" (SP5873-1).

5875	[SC Auto Reboot]				
001	Reboot Mode	*CTL	Enables or disables the automatic reboot function when an SC error occurs.		
			[0 or 1 / <b>0</b> / – ]		
			0: The machine reboots automatically when 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.		
			The reboot is not executed for Type A, B or C SC codes.		
002	Reboot Method	*CTL	Selects the reboot method for SC.		
			[0 or 1 / <b>0</b> / -]		
			0: Manual reboot, 1: Automatic reboot		

5878	[Option Setup]		
001	Option Setup	-	Enables the Data Overwrite Security unit. Press "EXECUTE" on the operation panel. Then turn the machine off and on.

5881	[Delete Fixed Sent]		
001	Delete Fixed Sent	-	Deletes the fixed form sentence.

5884	[Factini] Factory Initial Setting		
001	Value Restore	-	Restores the factory settings to the machine.
		This SP restores the settings of SP1001, 1002, 1922 and 3002.	
--	--	---	
--	--	---	

5886	[Permit ROM Update] DFU
001	This SP determines whether the ROM can be updated. [0 or 1 / <b>0</b> / 1/step] 0: On, 1: Off

	[Plug & Play] Plug & Play Name Selection		
5907	Selects the brand name and production name for the Plug and Play function. These names are registered in the NVRAM. If the NVRAM becomes defective, these names should be re-registered. Use the right-arrow or left-arrow key to scroll through the list of brand names. To select a brand name, press the "#" key. An asterisk (*) indicates which manufacture is currently selected.		
	Plug & Play	*BCU	[0 to 5 / 0 / 1 /step] <b>FA</b>
			0: RICOH: MP C1500/615C
			1: SAVIN: SGC 1506
001			2: Gestetner: MPC1500/GS106
			3: NRG: MP C1500SP
			4: infotec ISC 615G
			5: LANIER: MPC1500sp/LD2015c

5913	[Switchover Permission Time]	
	Print Application Timer	
002	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 / <b>3</b> / 1 second/step]	

5974	[Cherry Server]
001	Selects which version of the Scan Router application program, "Light" or "Full (Professional)", is installed.

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. Use this SP to enable and disable these features. In order to use the NIC and USB functions built into the controller board, these SP codes must be set to "1".	
		[0 to 2 / <b>0</b> / 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.
001	On Board NIC	♦ Note
		<ul> <li>Other network applications than NRS or LDAP/NT authentication are not available when this SP is set to "2". Even you can change the initial settings of those network applications, settings does not work actually.</li> </ul>
002	On Board USB	[0 or 1 / <b>0</b> / 1/step] 0: Disable, 1: Enable

5987	[Mech. Counter] Mechanical Counter Device	
	0: OFF / 1: ON	This SP detects that a mechanical counter device is removed. If it is detected, SC610 occurs.
		<ul> <li>Note</li> <li>This SP is active only for NA model.</li> </ul>

	[SP Print Mode]	SMC Print
5990 In the SP mode, press Copy Window to move to the copy screen, then press Start. Select A4/LT (Sideways) or larger to ensure that a Press SP Window to return to the SP mode, select the desired print		e to the copy screen, select the paper size, arger to ensure that all the information prints. elect the desired print, and press "EXECUTE".
001	1 All (Data List)	
002	SP (Mode Data List)	
003	User Program Data	

004	Logging Data
005	Diagnostic Report
006	Non-Default (Prints only SPs set to values other than defaults.)
007	NIB Summary
021	Copier UP
022	Scanner SP
023	Scanner UP

5999	[Self Refresh]		
001	Self Refresh	*CTL	Sets ON or OFF for Self Refresh. [0 or 1 / <b>0</b> / -] 0: ON, 1: OFF

# SP6-XXX (Peripherals)

	ADF Adjustment (🖝 ADF Image Adjustment)		
6006*	<b>♦</b> Note		
	<ul> <li>Available menus depend on the machine model and its configuration.</li> </ul>		
	StoS/Front Regist	[-7 to +9.5 / <b>0.0</b> / 0.1 mm/step]	
001	Adjusts the side-to-side registration for the front side of the original, for ADF mode. Use the key to select "+" or "-" before entering the value.		
	Leading Regist	[-5.0 to +5.0 / <b>0.0</b> / 0.1 mm/step]	
002	Adjusts the leading edge registration for ADF mode. Use the <sup>(*)</sup> key to select "+" or "-" before entering the value.		
	Trailing Erase	[-3.0 to +3.0 / <b>-1.0</b> / 0.1 mm/step]	
003	Adjusts the trailing edge erase margin for ADF mode. Use the <sup>(*)</sup> key to select "+" or "–" before entering the value.		
	StoS/Rear Regist	[-7 to +9.5 / <b>0.0</b> / 0.5 mm/step]	
004	Adjusts the side-to-side registration for the rear side of duplex originals, for ADF mode. Use the <sup>C®</sup> key to select "+" or "-" before entering the value.		

005	Sub-scan Magnif	[-9.0 to +9.0 / <b>0.0</b> / 0.1 %/step]			
005	Adjust the sub-scan magnification for the ADF.				
	Original Curl Adj	[ <b>0 = No</b> / 1 = Yes]			
006	Enables or disables the skew adjustment for the reverse sides of originals. When you enable SP6-006-6, adjust the distance of the skew adjustment (SP 6-006-7).				
	Skew Correction	[-20 to +20 / <b>0</b> / 1 mm/step]			
007	Specifies the distance of the skew adjustment. SP6006-7 is effective when you enable SP6006-6 (ADF Adjustment [Original Curl Adj]).				

6009	ADF Free Run
001	Performs an ADF free run. Press "ON" to start; press "OFF" to stop.

6010	[Stamp Position Adj.] Fax Stamp Position Adjustment				
0010	Adjusts the horizontal position of the stamp on the scanned originals.				
60101	Stamp Position Adj. *CTL [-10 to 10 / 0 / 1 mm/step]				

6901	Display ADF/APS
001	Displays the status of the ADF original size sensors ( ADF/ APS Sensor Output Display).

6910*	ADF Shading Time	[0 to 60 / <b>10</b> / 1 s/step]
001	Adjusts the interval used for the room may affect the scanner res white level is drifting during AD	shading processing in the ADF mode. Light and heat in the ponse. Reduce this setting if copy quality indicates that the <sup>F</sup> copy jobs.

## SP7-XXX (Data Log)

7002	[GJUnit TotalCount]				
7002	Displays the total number of printed pages for the selected mode.				
003	Color After Exchg	+			
004	Black After Exchg	*CIL	[0 to 99999999 / - / 1 / step]		

5

005	Color Total	
006	Black Total	

7010	[User Cleaning #]				
/212	Displays the user cleaning job number for the selected print head.				
001	K1 After Exchange				
002	K2 After Exchange				
003	C After Exchange				
004	M After Exchange	-			
005	Y After Exchange	*CTI	[0 to 999999 / - / 1/step]		
006	K1 Total		• These counters are cleared with SP7959-1.		
007	K2 Total				
008	C Total				
009	M Total				
010	Y Total				

7010	[User Refresh #]				
7213	Displays the user refreshing job number for the selected print head.				
001	K1 After Exchange				
002	K2 After Exchange				
003	C After Exchange				
004	M After Exchange		[0 to 999999 / - / 1/step]		
005	Y After Exchange	*CTL	♦ Note		
006	K1 Total		• These counters are cleared with SP7959-1.		
007	K2 Total				
008	C Total				
009	M Total				

010	Y Total				
	1				
	[Air Rls Fill #] Air Release and Ink Filling Counter				
7214	Displays the air releasing job number for the selected print head. This SP counts up the number of the air releasing job other than the jobs that are done with SP7215-xxx and 7219-xxx.				
001	К1				
002	K2		[0 to 999999 / - / 1/step]		
003	С	*CTL	♦ Note		
004	м		• These counters are cleared with SP7959-1.		
005	Y				

	[Aie Detec #] Air Releasing Detection Counter Displays the air releasing job number for the selected print head. This SP counts up the number of the air releasing job other than the jobs that are done with SP7214-xxx and 7219-xxx.					
7215						
001	K1 After Exchange					
002	K2 After Exchange					
003	C After Exchange					
004	M After Exchange	*CTL	[0 to 30000 / - / 1/step]			
005	Y After Exchange					
006	K1 Total					
007	K2 Total					
008	C Total					
009	M Total					
010	Y Total					

7217	[Idle Cleaning #]			
------	-------------------	--	--	--

	Displays the idle cleaning job number for the selected print head. The idle cleaning is done when the machine does not get any job for more than 7 days and less than 1 month.		
001	К1		
002	К2		[0 to 20000 / - / 1/step]
003	С	*CTL	♦ Note
004	м		• These counters are cleared with SP7959-1.
005	Υ		

	[Idle Refresh #]			
7218	Displays the idle refresh job number for the selected print head. The idle refres when the machine does not get any job for more than 3 months.			
001	К1			
002	K2		[0 to 100 / - / 1/step]	
003	С	*CTL	●Note	
004	м		• These counters are cleared with SP7959-1.	
005	Υ			

	[Idle Air Rls #]				
7219	Displays the idle air releasing job number for the selected print head. The idle air rele is done when the machine does not get any job for more than 1 month and less tha months.				
001	КІ				
002	К2	*CTL			
003	С		[0 to 300 / - / 1/step] These counters are cleared with SP7959-1.		
004	Μ				
005	Υ				

7001	[Waste Ink Count]			
/ 221	Displays the amout of the collected ink in the rear and front ink collection tank.			

	Rear	*CTL	[0 to 80000000/ - / 1 nl/step]		
001	The ink collection bottle (rear) near full is detected when this counter reaches the value specified with SP2-507-1 or the ink collection tank full sensor detects "ON".				
	The ink collection bottle (rear) full is detected when this counter reaches "2000000nl (20ml)".				
002	Front	*CTL	[0 to 60000000/ - / 1 nl/step]		
	The ink collection bottle (front) near full is detected when this counter reaches "21000000nl (210ml)".				
	The ink collection bottle (fro (210.3ml)".	nt) full is	detected when this counter reaches "210300000nl		

	[Mist Count]			
7222	Display the ink mist counter. This counter counts "1" with the formula of calculating ink mist. hese counters are references for the automatic cleaning. These counters are cleared after ne automatic cleaning has been done.			
001	КІ			
002	К2	*CTL	[0 to 2000000 / - / 1 nl/step]	
003	С			
004	М			
005	Y			

7000	[Cleaning #]			
1223	Displays the total cleaning j	e total cleaning job number for the selected print head.		
001	К1			
002	K2		<ul> <li>[0 to 999999 / - / 1/step]</li> <li>◆ Note</li> <li>• These counters are cleared with SP7804-2 and 7959-1.</li> </ul>	
003	С	*CTL		
004	м			
005	Υ			

7224	[Refresh #]
------	-------------

	Displays the total refresh job	o number	for the selected print head.
001	К1		
002	К2		[0 to 999999 / - / 1/step]
003	С	*CTL	
004	Μ		<ul> <li>These counters are cleared with SP7 804-2 and 7959-1.</li> </ul>
005	Y		

	[AirRlsFill Total] Air Release and Ink Filling Total Counter				
7225	Displays the total air releasing This counter counts "1" when counted.	sing job number for the selected print head. en either of SP7214-xxx, SP7215-xxx or SP7219-xxx is			
001	К1				
002	K2	*CTL	[0 to 999999 / - / 1/step]		
003	С				
004	М		<ul> <li>These counters are cleared with SP/804-2 and 7959-1.</li> </ul>		
005	Y				

7004*	[Driving CL #]				
7220	Displays the number of drive cleaning.				
001	КІ				
002	К2				
003	С		[0 to 999999 / 0 / 1 /step]		
004	м				
005	Υ				

7007*	[Mist Auto CL #]		
/ /	Display the number of autom	atic cleaning for charged mist.	
001	К1		[0 to 999999 / 0 / 1 /step]

002     K2       003     C       004     M       005     Y			
003         C           004         M           005         Y	002	K2	
004 M 005 Y	003	С	
005 Y	004	м	
	005	Y	

7000*	[Powder Auto CL #]				
7220	Display the number of automatic cleaning for powder.				
001	К1				
002	K2		[0 to 999999 / 0 / 1 /step]		
003	С				
004	м				
005	Y				

7000*	[Decap Auto CL #]				
/ 7	Displays the number of de-cap automatic cleaning.				
001	К1				
002	K2				
003	С	*CTL	[0 to 999999/ <b>0</b> / 1]		
004	м				
005	Υ				

7045*	[End Bubble Count]				
7243	Displays the number of flag detections before ink end (2-245-001 to 005)				
001	К1		[0 to 999999/ <b>0</b> / 1]		
002	К2	* 071			
003	С	^CIL			
004	м				

005	Y	

7044*	[Pour Out Counter]					
7240	Displays the number of ink supply seaquence.					
001	К1					
002	К2		[0 to 999999/ <b>0</b> /1]			
003	С	*CTL				
004	м					
005	Υ					

7047*	[Idl Bubble Count]					
/ 24/	Displays the number of air incorporation by the idling.					
001	КІ		[0 to 999999/ <b>0</b> / 1]			
002	К2					
003	С	*CTL				
004	М					
005	Y					

	[Total Page Count] Total Page Counter					
7302	Displays the total fed paper number for the selected print head.					
	This counter counts "1" when less than A4LEF size is fed and counts "1.4" when bigger the A4LEF size is fed. These counters are referenced for automatic cleaning.					
001	К1					
002	К2		[0 to 1000 / - / 0.1 page/step]			
003	С	*CTL				
004	м		Inese counters are cleared after the auto cleaning is done.			
005	Υ					

7401*	[Counter–SC Total]	*CTL	[0 to 9999 / <b>0</b> / 1/step]			
001	Displays how many times SC	nes SC codes are generated.				
	[Filler Posn SC #] Tank Full L	ever Posit	ion Error SC Counter			
7402	Displays the number of SC20 when the machine fails to me	02 occurr emorize p	rences for the selected print head. SC202 occurs osition of tank full lever.			
001	K1 After Exchange					
002	K2 After Exchange					
003	C After Exchange					
004	M After Exchange					
005	Y After Exchange		[0 to 10000 / / 1 /stop]			
006	K1 Total		[0 10 10000 / - / 1 / sieb]			
007	K2 Total					
008	C Total					
009	M Total					
010	Y Total					

7403	[SC History]		
001	Latest		
002	Latest 1		
003	Latest 2		Logs the SC codes detected.
004	Latest 3		The 10 most recently detected SC Codes are
005	Latest 4	*CTL	displayed on the screen.
006	Latest 5		V: Assert location
007	Latest 6	_	F: Assert file
008	Latest 7		
009	Latest 8		

010	Latest 9				
	[Maint Mot SC #] Maintenance Unit Motor HP Sensor Error Counter				
7404					

-0-	Displays the number of the SC the home position error for the	200 occi mainten	urrences. SC200 oc ance unit.	ccurs when the machine c	letects
001	[SC # After Excha]				

001	[SC # After Exchg]	*сті	[0 to 10000 / 0 / 1 / stop]
002	[SC # Total]	CIL	

7502*	[Counter-Paper Jam]	[0 to 9999 / <b>0</b> / 1/step]
001	Displays the total number of paper jams.	

7503*	[Counter–Orgn Jam]	[0 to 9999 / <b>0</b> / 1/step]
001	Displays the total number of original jams,	

7504*	[Paper Jam/Loc]	[0 to 9999 / <b>0</b> / 1/step]			
7504	Displays the total number of the paper jams classified by timing and location.				
001	At Power On				
001	Paper jam occurs at power on.				
002	Main Scan Motor <b>Not used</b>				
002	Non Feed Tray 1				
003	Paper does not reach the first registration sensor (from the paper tray 1).				
004	Non Feed 100 Bypass				
004	Paper does not reach the first registration sensor (from the bypass tray).				
005	Non Feed Bypass				
005	Paper does not reach the second registration sensor (from the one-sheet bypass tray).				
006	Non Feed Tray2				
	Paper does not reach the vertical transport sensor or duplex exit sensor (from the optional paper tray2).				

007	Non Feed1 Tray3		
007	Paper does not reach the vertical transport sensor (from the optional paper tray3).		
000	Non Feed2 Tray3		
008	Paper does not reach the duplex exit sensor (from the optional paper tray3).		
010	Off EngEntrance		
010	Paper does not reach the engine entrance sensor (from other thanbypass tray).		
011	Off EngRegist SN		
	Paper does not reach the second registration sensor (from other than bypass tray).		
012	Off EngExit		
012	Paper does not reach the engine exit sensor.		
012	Off IntChange SN		
013	Paper does not reach the junction gate sensor.		
014	Off Exit SN		
014	Paper does not reach the paper exit sensor.		
	Off FedRegist SN		
015	Paper does not reach the first registration sensor (from the duplex unit or optional paper tray unit).		
010	Off DupEnt SN		
019	Paper does not reach the duplex entrance sensor.		
020	Off DupWait SN		
020	Paper does not reach the duplex wait sensor.		
021	Off DupRevers SN		
021	Paper does not reach the duplex inverter sensor.		
000	Off VertOP SN		
022	Paper does not reach the relay sensor.		
023	Off DupExit SN		

	Paper does not reach the duplex exit sensor.		
052	Off FedRegist SN		
055	Paper is caught at the first registration sensor.		
055	On Bypass SN		
055	Paper from the one-sheet bypass tray is caught at the engine entrance sensor.		
05/	On Jam Tray2		
030	Paper from the tray2 (optional paper try unit) is caught at the relay sensor.		
	On Jam Tray3		
057	Paper from the tray3(optional paper try unit) is caught at the vertical transport sensor at the optional unit.		
040	On EngEnt SN		
080	Paper from other than one-sheet bypass tray is caught at the engine entrance sensor.		
041	On EngRegist SN		
001	Paper is caught at the second registration sensor.		
042	On EngExit SN		
002	Paper is caught at the engine exit sensor.		
042	On IntChange SN		
003	Paper is caught at the junction gate sensor.		
044	On MFExit SN		
004	Paper is caught at the paper exit sensor.		
060	On DupEnt SN		
009	Paper is caught at the duplex entrance sensor.		
070	On DupWait SN		
070	Paper is caught at the duplex wait sensor.		
071	On DupRevers SN		
071	Paper is caught at the duplex inverter sensor.		

072	On VertOP SN
	Paper from the duplex unit is caught at the relay sensor.
073	On DupExit VerSN1
	Paper from the duplex unit is caught at the duplex exit sensor.
074	On DupExit VerSN2
	Paper from the optional paper tray unit is caught at the duplex exit sensor.

	[Original Jam/Loc]	[0 to 9999 / <b>0</b> / 1/step]		
7505*	Displays the total number of the original jams on the ADF that have occurred at a certain timing or at a certain location.			
001	At Power ON	At Power ON		
001	Paper jam occurs at power on.			
003	Off DF Regist SN			
003	The original does not reach the first registration sensor.			
004	Off DF Exit SN			
004	The original does not reach the exit sensor.			
005	Off DF Revers SN			
005	The original does not reach the inverter sensor.			
0.5.2	On DF Regist SN			
033	The original is caught at the first registration sensor.			
054	On DF Exit SN			
054	The original is caught at the exit sensor.			
055	On DF Revers SN			
The original is caught at the inver		ensor.		
7506	[Paper Jam/ Size] Jam Counter: Paper Size			

005	A4 LEF		
006	A5 LEF	•	
014	B5 LEF	•	
038	LT LEF		
044	HLT LEF	•	
132	A3 SEF	•	
133	A4 SEF	*CTL	Displays the number of jams according to the
134	A5 SEF		paper size.
141	B4 SEF	•	[ 0 to 9999 / <b>0</b> / 1 sheet/step ]
142	B5 SEF	•	
160	DLT SEF		
164	LG SEF		
166	LT SEF		
172	HLT SEF		
255	Others		

7507*	[Disply-P Jam Hist] Display: Paper Jam History		
001	Last	Displays the copy jam history (the most recent 10 jams)	
002	Latest 1	Sample Display:	
003	Latest 2	CODE:007 SIZE:05h TOTAL:0000334 DATE:DEC 1 09:44/06 2005 where: CODE is the SP7504-*** number (see above.) SIZE is the ASAP paper size code in hex. TOTAL is the total jam error count (SP7003) DATE is the date the jams occurred.	
004	Latest 3		
005	Latest 4		
006	Latest 5		
007	Latest 6		
008	Latest 7		
009	Latest 8		

010 Latest 9					
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

	[Disply-O Jam Hist] Display: Original Jam History			
	Displays the original jam history of the transfer unit in groups of 10, starting with the most recent 10 jams. Display contents are as follows:			
7508*	508*CODE is the SP7-505-*** number.SIZE is the paper size code in hex. (See "Paper Size Hex Codes" below.)TOTAL is the total jam error count (SP7-003)DATE is the date the previous jam occurred			
001*	Latest			
002*	Latest 1			
003*	Latest 2			
004*	Latest 3	Sample Display:		
005*	Latest 4	CODE: 007 SIZE: 05h TOTAL: 0000334		
006*	Latest 5			
007*	Latest 6	DATE: Mon Mar 15 11:44:50 2000		
008*	Latest 7			
009*	Latest 8			
010*	Latest 9			

[Total Decap Time]

	Displays the time when the print head has not been covered. This SP is the threshold for the auto cleaning. This counter is cleared after the auto cleaning.		
001		*CTL	[0 to 1000000 / - / 1 sec/step]

7704	[Ink Condition]			
7704	Displays the ink cartridge condition.			
001	К1		[0 to 3 / <b>0</b> / 1 /step]	
002	К2	*CTL	0: Ink remains in the both ink cartridge and sub- tank.	
003	С		1: Ink remains only in the sub-tank. (No ink in the	
004	м		ink cartridge) However, printing is still possible.	
005	Y		<ul><li>2: Ink is not enough to print because the sub-tank is nearly empty. "Ink empty" message appears on the LCD</li><li>3: Ink is empty.</li></ul>	

7705	[Ink Consumption]		
	Displays the amount of the ink consumption. This counter is cleared after ink filling up.		
001	К1		
002	К2		
003	С	*CTL	[0 to 4000000 / <b>0</b> / 1 nl/step]
004	Μ		
005	Y		

7001	[Memory/Version/PN]		
7801	Displays the part number and version of all ROMs in the machine.		
001	Memory/Version/PN		

7902	[PM Counter]
7803	Displays the PM counter for each PM part.

001	Paper		
002	Maintenance Unit		
003	Charge Roller		
004	Transport Belt		
005	Waste Ink Tank	*CTL	[0 to 99999999 / <b>0</b> / 1/step]
006	Roller (Bypass)		
007	Roller (Tray1)		
008	Roller (Tray2)		
009	Roller (Tray3)		

7904	[PM Count. Reset]			
7804	Clears the PM counter for each PM part.			
001	Paper	*CTL	This clears the counter of SP7803-1.	
002	Maint Unit	*CTL	This clears the counter of SP7803-2, SP7223-001 to -005, SP7224-001 to -005 and SP7225-001 to -005.	
003	Charge Roller	*CTL	This clears the counter of SP7803-3.	
004	Transport Belt	*CTL	This clears the counter of SP7803-4.	
005	Waste Ink Tank	*CTL	This clears the counter of SP7-221-001, SP7-803-005 and SP7-941-001	
006	Roller (Bypass)	*CTL	This clears the counter of SP7803-6.	
007	Roller (Tray1)	*CTL	This clears the counter of SP7803-7.	
008	Roller (Tray2)	*CTL	This clears the counter of SP7803-8.	
009	Roller (Tray3)	*CTL	This clears the counter of SP7803-9.	
010	Head Unit	*CTL	DFU	

7905	[ExchgCount.Reset]
Clears	Clears the counter values of the following SPs after the GJ engine unit is replaced.

	SP2-242-001 to 005: [Re-Supply counter]		
	SP7-002-003, 004: [GJUnit Total Counter]		
	SP7-212-001 to 005: [User Cleaning]		
	SP7-213-001 to 005: [User Refresh]		
	SP7-215-001 to 005: [Air Detect]		
	SP7-218-001 to 005: [Idle Refrsh]		
	SP7-402-001 to 005: [Tank Fill Lever Position error SC Counter]		
	SP7-404-001: [Mainenance	1: [Mainenance Unit Motor HP Sensor Error Counter]	
001	PM part exclusion	[0 - 1/0 / ]	
002	PM parts contain		

7807	[Reset–SC/Jam Counters]
7807 1	Resets the SC, paper, original, and total jam counters. When the program ends normally, the message "Completed" is displayed. SP 7807 1 does not reset the following logs: SP 7507 (Display-Paper Jam History) and SP 7508 (Display-Original Jam History).

7004	[MF Error Counter] Japan Only		
/ 020	Displays the number of counts requested of the card/key counter.		
001	Error Total	A request for the count total failed at power on. This error will occur if the device is installed but disconnected.	
002	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]		
	Press Execute to reset to 0 the values of SP7826. Japan Only		

7832*	[Display-Self-Diag]
7832 1	Displays the SC codes and the number of their occurrences. Each number is in the range of 0 to 9999.

7836	[Resident Memory]
	Displays the contents of the memory on the controller board.

7852	[ADF Scan Glass]		
001	Dust Counter	[0 to 9999 / - / 1/step]	
	Counts the number of occurrences (0 to 65,535) when dust was detected on the scanning glass of the ADF. Counting is done only if SP4020 1 (ADF Scan Glass Dust Check) is switched on. Memory All Clear (SP5801) resets this counter to zero		
002	Clear Counter	[0 to 9999 / - / 1/step]	
	Clears the total counter of the du	ust diction.	

7952	[Cart Replace #] Ink Cartridge Replacement Counter				
7655	Displays the replacement time of the ink cartridge for each color.				
001	К				
002	С	* ~ 11	[0 to 1000 / <b>0</b> / 1/step]		
003	М				
004	Y				

7854	[Wst Tnk Rep #] Ink Collection Tank Replacement Counter		
	Displays the replacement time of the ink collection tank at front side or rear side.		
001	Rear	[0 to 100 / - / 1/step]	
002	Front	[0 to 100 / - / 1/step]	

7855	[Coverage Range]		
	Sets the color coverage threshold. Coverage rate = Coverage per page / A4 full coverage (dots) x 100 There are three coverage counters: Color 1, Color 2, and Color 3 • [A] 5% (default) is adjustable with SP7855-001.		
	• [B] 20% (defduil) is adjustable with SP/855-002. [A] [B] Color Color1 Color2 Color3 coverage 0% 200%		

Note	

• The setting value [B] must be set larger than [A].

The total numbers of printouts (BW printing plus color printing) for each coverage range are displayed with the following SPs.

- Color1 counter: SP8601-021
- Color2 counter: SP8601-022
- Color3 counter: SP8601-023

001	Coverage Range 1	*CTL	[1 to 200 / <b>5</b> / 1]
002	Coverage Range 2	*CTL	[1 to 200 / <b>20</b> / 1]

[Assert Info]				
Records the location where a problem is detected in the program. The data stored in this SP is used for problem analysis. <b>DFU</b>				
File Name	-	-		
Number of Lines	-	-		
Location	-	-		
	[Assert Info] Records the location where SP is used for problem analy File Name Number of Lines Location	[Assert Info]         Records the location where a proble         SP is used for problem analysis. DFU         File Name       -         Number of Lines       -         Location       -		

7931	Ink Info: BK			
7932	Ink Info: M			
7933	Ink Info: C			
7934	Ink Info: Y			
001	Model ID	Model ID Displays the model ID that is used in RAPI.		
002	Cartridge Ver Displays the cartridge version.			
	Brand ID	Displays the brand ID.		
		01H: RICOH	05H: Nashuatec	
003		02H: Savin	06H: Rex	
		03H: NRG	07H: Danka-Infotec	
		04H: Gestetner	08H: Lanie	
004	Area ID	Displays the area ID.		

7931	Ink Info: BK			
7932	Ink Info: M			
7933	Ink Info: C			
7934	Ink Info: Y			
		01H: Japan	04H: ASIA	
		02H: NA	05H: CHINA	
		03H: EU	06H: LA	
005	Production ID	Displays the production ID.		
		Displays the color ID.		
006	Color ID	01H: Bk	03H: M	
		02H: C	04H: Y	
007	Maintenance ID	Displays the maintenance ID.	Japan Only?	
Displays the information		Displays the information of the	of the new cartridge.	
008	New	64H: New unit		
		00H: Used unit		
009	Recycle Count	Displays how many times a cartridge is recycled.		
010	Product Date	Displays the production date and model number.		
011	Serial No	Displays the serial number.		
012	Ink Remaining	Displays the amount of the ink	remaining.	
013	EDP Code	Displays the EDP (type) code.		
014	Ink End	Displays the history of the ink end.		
015	Ink Refill	Displays the information of the refill.		
		[0 to 9999999 / - / 1/step]		
016	Total Count:Start	Displays the total counter for I new cartridge is installed.	3/W printing mode when the	
		[0 to 9999999 / - / 1/step]		
017	Color Count:Start	Displays the total counter for a new cartridge is installed.	color printing mode when the	

7931	Ink Info: BK		
7932	Ink Info: M		
7933	Ink Info: C		
7934	Ink Info: Y		
		[0 to 9999999 / - / 1/step]	
018	Total Count:End	Displays the total counter for B/W printing mode when the new cartridge is installed.	
		[0 to 9999999 / - / 1/step]	
019	Color Count:End	Displays the total counter for color printing mode when the new cartridge is installed.	
020	Install Date	Displays the installation date.	
021	Ink End Date	Displays the ink end date.	
022	ID Chip Ink Cons	Displays the amount of the ink consumption.	
023	Ink Cons: Mirror 1	This SP is the mirroring SP of SP793x-021.	
024	Ink Cons: Mirror2	This SP is the mirroring SP of SP793x-021.	
025	Due Date	Displays the guarantee date for product quality.	
026	Initial Fill #	Displays how many times the initial ink filling up is done.	
027	Refresh #	Displays how many times the refresh mode is done.	
028	Cleaning #	Displays how many times the cleaning mode is done.	
029	Air Rls Fill #	Displays how many times the air release mode is done.	
034	Air Sens Thresh	Displays air sensor threshold of ink cartridge Yellow. [0 to 1023/655/1]	

7935	Ink Info Log: BK	
7936	Ink Info Log: M	
7937	Ink Info Log: C	
7938	Ink Info Log: Y	
001	1: Serial No	Displays the serial number of the current ink cartridge.

7935	Ink Info Log: BK	
7936	Ink Info Log: M	
7937	Ink Info Log: C	
7938	Ink Info Log: Y	
002	1: Install Date	Displays the date when the current ink cartridge is installed.
003	1: Total Count	Displays the total counter when the current ink cartridge is installed.
004	2: Serial No	Displays the serial number of the previous ink cartridge
004	2. Install Date	Displays the data when the previous introductions is included.
005		Displays the date when the previous the cartifiage is installed.
006	2: Total Count	Displays the total counter when the previous ink cartridge is installed.
		[0 to 99999999 / - / 1/step]
007	3: Serial No	Displays the serial number of the one before the previous ink cartridge.
008	3: Install Date	Displays the date when t the one before the previous ink cartridge is installed.
009	3: Total Count	Displays the total counter when the one before the previous ink cartridge is installed. [0 to 99999999 / - / 1/step]
010	4: Serial No	Displays the serial number of the one before the third-previous ink cartridge.
011	4: Install Date	Displays the date when the one before the third-previous ink cartridge is installed.
012	4: Total Count	Displays the total counter when the one before the third- previous ink cartridge is installed. [0 to 99999999 / - / 1/step]
013	5: Serial No	Displays the serial number of the one before the fourth- previous ink cartridge.

7935	Ink Info Log: BK	
7936	Ink Info Log: M	
7937	Ink Info Log: C	
7938	Ink Info Log: Y	
014	5: Install Date	Displays the date when the one before the fourth-previous ink cartridge is installed.
015	5: Total Count	Displays the total counter when the one before the fourth- previous ink cartridge is installed. [0 to 99999999 / - / 1/step]

7946	[Ink Eject Result] Measures success and failure of ink ejection.	
001	[Success]	[0 to 255 / <b>0</b> / 1/step]
002	[Ink End]	[0 to 255 / <b>0</b> / 1/step]

7959	[GJ Eng Count. Reset] GelJet Engine Counter Reset		
	Clears the following counters related with GJ engine unit.		
001	SP7-002-003 SP7-002-004 SP7-212-001 to 005 SP7-213-001 to 005 SP7-214-001 to 005 SP7-215-001 to 005 SP7-216-001 to 005 SP7-217-001 to 005 SP7-218-001 to 005	SP7-221-002 SP7-223-001 to 005 SP7-224-001 to 005 SP7-225-001 to 005 SP7-402-001 to 005 SP7-404-001 SP7-803-002 SP7-803-003 SP7-803-004	

### SP8-XXX (History)

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
SP8-211toSP8-216	The number of pages scanned to the document server.
SP8-401toSP8-406	The number of pages printed from the document server
SP8-691toSP8-696	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.		
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	
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.)	

Abbreviation	What it means	
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.	
К	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.	
PC	Personal Computer	
PGS	Pages. A page is the total scanned surface of the original. Duplex pages count as 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	

Abbreviation	What it means	
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	
ҮМСК	Yellow, Magenta, Cyan, Black	

### **Vote**

• All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

8 001	T:Total Jobs	*CTL	These SPs count the number of times each application is used
8 002	C:Total Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 003	F:Total Jobs	*CTL	●Note
8 004	P:Total Jobs	*CTL	• The L: counter is the total number of times the other
8 005	S:Total Jobs	*CTL	server, plus the number of times a file already on the document server is used.
8 006	L:Total Jobs	*CTL	

- 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.

8 01 1	T:Jobs/LS	*CTL	These SPs count the number of jobs stored to the document
8 012	C:Jobs/LS	*CTL	server by each application, to reveal how local storage is
8 013	F:Jobs/LS	*CTL	being used tor input.
8 014	P:Jobs/LS	*CTL	The L: counter counts the number of jobs stored from within
8 015	S:Jobs/LS	*CTL	the document server mode screen at the operation panel.

8 016	L:Jobs/LS	*CTL
8 01 <i>7</i>	O:Jobs/LS	*CTL

- 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.

8 021	T:Pjob/LS	*CTL	
8 022	C:Pjob/LS	*CTL	These SPs reveal how files printed from the document
8 023	F:Pjob/LS	*CTL	server were stored on the document server originally.
8 024	P:Pjob/LS	*CTL	[0  to  9999999 / 0 / 1]
8 025	S:Pjob/LS	*CTL	within the document server mode screen at the
8 026	L:Pjob/LS	*CTL	operation panel.
8 027	O:Pjob/LS	*CTL	

- 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.

8 031 T:Pjob/DesApl *CTL	These SPs reveal what applications were used to output documents from the document server.
--------------------------	--

8 032	C:Pjob/DesApl	*CTL	
8 033	F:Pjob/DesApl	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 034	P:Pjob/DesApl	*CTL	The L: counter counts the number of jobs printed from
8 035	S:Pjob/DesApl	*CTL	within the document server mode screen at the operation papel
8 036	L:Pjob/DesApl	*CTL	
8 037	O:Pjob/DesApl	*CTL	

- 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.

8 041	T:TX Jobs/LS	*CTL	These SPs count the applications that stored files on
8 042	C:TX Jobs/LS	*CTL	the document server that were later accessed tor transmission over the telephone line or over a
8 043	F:TX Jobs/LS	*CTL	network (attached to an e-mail, or as a fax image by I-Fax).
8 044	P:TX Jobs/LS	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 045	S:TX Jobs/LS	*CTL	●Note
8 046	L:TX Jobs/LS	*CTL	<ul> <li>Jobs merged for sending are counted senarately.</li> </ul>
8 047	O:TX Jobs/LS	*CTL	The L: counter counts the number of jobs scanned from within the document server mode screen at the 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.

8 051	T:TX Jobs/DesApl	*CTL	
8 052	C:TX Jobs/DesApl	*CTL	from the document server over the telephone line or
8 053	F:TX Jobs/DesApl	*CTL	over a network (attached to an e-mail, or as a fax image by I-Fax). Jobs merged for sending are
8 054	P:TX Jobs/DesApl	*CTL	counted separately.
8 055	S:TX Jobs/DesApl	*CTL	[0 to 9999999 / <b>0</b> / 1]

8 056	L:TX Jobs/DesApl	*CTL	The L: counter counts the number of jobs sent from within the document server mode screen at the
8 057	O:TX Jobs/DesApl	*CTL	operation panel.

• If the send is started from Desk Top Binder or Web Image Monitor, for example, then the O: counter increments.

	T:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 061	These SPs total the finishing methods. The finishing method is specified by the application.				
	C:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 062	These SPs total finishing me by the application.	thods for c	copy jobs only. The finishing method is specified		
	F:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 063	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	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 064	These SPs total finishing methods for print jobs only. The finishing method is specified by the application.				
	S:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 065	These SPs total finishing methods for scan jobs only. The finishing method is specified by the application. • Finishing features for scan jobs are not available at this time.				
	L:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 066	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 print window within document server mode.				
8 067	O:FIN Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		

	These SPs total finishing methods for jobs executed by an external application, over the network. The finishing method is specified by the application.		
001	Sort	Number of jobs started in Sort mode. When a stored copy job is set fo Sort and then stored on the document server, the L: counter increments (See SP8066-1)	
002	Stack	Number of jobs started out of Sort mode.	
003	Staple	Number of jobs started in Staple mode.	
004	Booklet	Number of jobs started in Booklet mode. If the machine is in staple mode the Staple counter also increments.	
005	Z-Fold	Number of jobs started In any mode other than the Booklet mode and set for folding (Z-fold).	
006	Punch	Number of jobs started in Punch mode. When Punch is set for a print job the P: counter increments. (See SP8064-6.)	
007	Other	Reserved. Not used.	

	T:Jobs/PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
8 071	These SPs count the number of jobs broken down by the number of pages in the job, regardless of which application was used.					
	C:Jobs/PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
8 072 These SPs count and calculate the number of copy jurisdiction of pages in the job.		per of copy jobs by size based on the number				
	F:Jobs/PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
8 073	These SPs count and calculate the number of fax jobs by size based on the number of pages in the job.					
	P:Jobs/PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
8 074	These SPs count and calculate the number of print jobs by size based on the number of pages in the job.					
	S:Jobs/PGS		[0 to 9999999 / <b>0</b> / 1]			
8 075	These SPs count and calculate the number of scan jobs by size based on the number of pages in the job.					
	L:Jobs/PGS	*CT	CTL [0 to 9999999 / <b>0</b> / 1]		9999 / <b>0</b> / 1]	
-------	---	--	-----------------------------------	-------------------------------	--	--
8 076	These SPs count and calculate the number of jobs printed from within the document server mode window at the operation panel, by the number of pages in the job.					
	O:Jobs/PGS *CT		L	[0 to 9999999 / <b>0</b> / 1]		
8 077	These SPs count and calcul Monitor, Palm 2, etc.) by si	alculate the number of "Other" application jobs (Web Image by size based on the number of pages in the job.			er" application jobs (Web Image er of pages in the job.	
001	1 Page			008	21to50 Pages	
002	2 Pages			009	51to100 Pages	
003	3 Pages			010	101to300 Pages	
004	4 Pages			011	301to500 Pages	
005	5 Pages			012	501to700 Pages	
006	óto 1 0 Pages			013	701to1000 Pages	
007	11to20 Pages			014	1001to 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.



	F: FAX TX Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 1 1 3	These SPs count the total number of jobs (color or black-and-white) sent by fax directly on a telephone line.				
	●Note				
	Color fax sending is not available at this time.				
001	B/W				
002	Color				

- 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 (8 12x) also increments.
- The fax job is counted when the job is scanned for sending, not when the job is sent.

	T:IFAX TX Jobs	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 121	These SPs count the total number of jobs (color or black-and-white) sent, either di or using a file stored on the document server, as fax images using I-Fax. <b>Note</b> • Color fax sending is not available at this time.			
	F: IFAX TX Jobs	[0 to 9999999 / <b>0</b> / 1]		
<ul> <li>8 123</li> <li>8 123</li> <li>8 123</li> <li>Color fax sending is not available at this tim</li> </ul>			lor or black-and-white) sent (not stored on the I-Fax. at this time.	
001	B/W			
002	Color			

- 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	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 131	These SPs count the total number of jobs (color or black-and-white) scanned and attached to an e-mail, regardless of whether the document server was used or not.				
	S:S-to-Email Jobs	* CTL	[0 to 9999999 / <b>0</b> / 1]		
8 135	These SPs count the number of jobs (color or black-and-white) scanned and attached to e-mail, without storing the original on the document server.				
001	B/W				
002	Color				
003	ACS				

- 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).

	T:Deliv Jobs/Svr	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 141	These SPs count the total number of jobs (color or black-and-white) scanned and sent to a Scan Router server.				
	S:Deliv Jobs/Svr	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 145	These SPs count the number of jobs (color or black-and-white) scanned in scanner mode and sent to a Scan Router server.				
001	B/W				
002	Color				
003	ACS				

• These counters count jobs, not pages.

- 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	*CTL	[Oto9999999 / <b>0</b> / 1]		
8 151       These SPs count the total number of jobs (color or black-and-white) scanned of to a folder on a PC (Scan-to-PC).         Image: Note					
	• At the present time, SP8151 and 8155 perform identical counts.				
	S:Deliv Jobs/PC	*CTL	[0to9999999 / <b>0</b> / 1]		
8 155	These SPs count the total number of jobs (color or black-and-white) scanned and sent with Scan-to-PC.				
001	B/W				
002	Color				
003	ACS				

- 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.

8 161	T:PCFAX TX Jobs	*CTL	These SPs count the number of PC Fax transmission
8 163	F:PCFAX TX Jobs	*CTL	jobs. A job is counted from when it is registered for sending, not when it is sent. [0 to 9999999 / <b>0</b> / 1]

<b>⊎</b> Note
<ul> <li>At the present time, these counters perform identical counts.</li> </ul>

• 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.

8 191	T:Total Scan PGS	*CTL	
8 192	C:Total Scan PGS	*CTL	These SPs count the pages scanned by each
8 193	F:Total Scan PGS	*CTL	application that uses the scanner to scan images.
8 195	S:Total Scan PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 196	L:Total Scan PGS	*CTL	

- SP 8 191 to 8 196 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.

8 201	T:LSize Scan PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]				
	These SPs count the total number of large pages input with the scanner for scan and copy jobs. 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 display.						
0.000	F:LSize Scan PGS         *CTL         [0 to 9999999 / 0 / 1]						
8 203	These SPs count the number of large pages scanned by original type for Fax jobs.						

8 205	S:LSize Scan PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
	These SPs count the total number of large pages input with the scanner for scan jobs only. 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 display.					

8 211	T:Scan PGS/LS	*CTL	These SPs count the number of pages scanned into the
8 212	C:Scan PGS/LS	*CTL	document server .
8 213	F:Scan PGS/LS	*CTL	The L: counter counts the number of pages stored from
8 215	S:Scan PGS/LS	*CTL	within the document server mode screen at the operation panel, and with the Store File button from
8 2 1 6	L:Scan PGS/LS	*CTL	within the Copy 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.

0.001	ADF Org	Feeds	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 2 2 1	These SPs count the number of pages fed through the ADF for front and back side scanning.					
001	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.)				
002	Back	Number of rear sides fed for scanning: With an ADF that can scan both sides simultaneously, the Back count is the sar 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	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 231	These SPs count the number of pages scanned by each ADF mode to determine the work load on the ADF.				
001	Large Volume	Selectable. Large copy jobs that cannot be loaded in the ADF at one time.			
002	SADF	Selectable. Feeding pages one by one through the ADF.			
003	Mixed Size	Selectable. Select "Mixed Sizes" on the operation panel.			
004	Custom Size	Selectable. Originals of non-standard size.			
005	Platen	Book mode. Raising the ADF and placing the original directly on the 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.

8 241	T:Scan PGS/Org	*CTL	[0 to 9999999 / <b>0</b> / 1]			
	These SPs count the total number of scanned pages by original type for all jobs, regardless of which application was used.					
9.2.42	C:Scan PGS/Org	*CTL	[0 to 9999999 / <b>0</b> / 1]			
0 242	These SPs count the number of pages scanned by original type for Copy jobs.					
0.042	F:Scan PGS/Org	*CTL	[0 to 9999999 / <b>0</b> / 1]			
0 243	These SPs count the number of pages scanned by original type for Fax jobs.					
8 245	S:Scan PGS/Org	*CTL	[0 to 9999999 / <b>0</b> / 1]			
	These SPs count the number of pages scanned by original type for Scan jobs.					

	L:Scan PGS/Org		*CTL	CTL [0 to 9999999 / 0 / 1]					
8 246	These SPs count the 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								
	1	8 241	8 242	8 243	8 245	8 246	8 247		
001: Text		Yes	Yes	Yes	Yes	Yes	Yes		
002: Text/I	Photo	Yes	Yes	Yes	Yes	Yes	Yes		
003: Photo		Yes	Yes	Yes	Yes	Yes	Yes		
004: GenCopy, Pale		Yes	Yes	No	Yes	Yes	Yes		
005: Мар		Yes	Yes	No	Yes	Yes	Yes		
006: Normal/Detail		Yes	No	Yes	No	No	No		
007: Fine/	Super Fine	Yes	No	Yes	No	No	No		
008: Binary		Yes	No	No	Yes	No	No		
009: Grayscale		Yes	No	No	Yes	No	No		
010: Color		Yes	No	No	Yes	No	No		
011: Other		Yes	Yes	Yes	Yes	Yes	No		

• 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.

8 251	T:Scan PGS/ImgEdt	*CTL	These SPs show how many times Image Edit features
8 252	C:Scan PGS/ImgEdt	*CTL	have been selected at the operation panel tor each application. Some examples of these editing features
8 254	P:Scan PGS/ImgEdt	*CTL	are:
8 256	L:Scan PGS/ImgEdt	*CTL	Erase> Border
			• Erase> Center
	O:Scan PGS/ImgEdt	*CTL	<ul> <li>Image Repeat</li> </ul>
8 257			Centering
			Positive/Negative
			[0 to 9999999 / <b>0</b> / 1]

<b>↓</b> Note
<ul> <li>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</li> </ul>
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.

8 261	T:Scn PGS/ColCr	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 262	C:Scn PGS/ ColCr	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 266	L:Scn PGS/ColCr	*CTL	[0 to 9999999 / <b>0</b> / 1]	
001	Color Conversion			
002	Color Erase	These SPs show how many times color creation features have been selected at the operation pane		
003	Background			
004	Other			

8 281	T:Scan PGS/TWAIN	*CTL	These SPs count the number of pages scanned using
8 285	S:Scan PGS/TWAIN	*CTL	<ul> <li>a IWAIN driver. These counters reveal how the TWAIN driver is used for delivery functions.</li> <li>[0 to 9999999 / 0 / 1]</li> <li>◆ Note</li> <li>• At the present time, these counters perform identical counts.</li> </ul>

8 291	T:Scan PGS/Stamp	*CTL	These SPs count the number of pages stamped with
8 293	F:Scan PGS/Stamp	*CTL	the stamp in the ADF unit. [0 to 9999999 / <b>0</b> / 1] 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
8 295	S:Scan PGS/Stamp	*CTL	
8 296	L:Scan PGS/Stamp	*CTL	
8 301	T:Scan PGS/Size	*CTL	[0 to 9999999 / <b>0</b> / 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 size [SP 8-441].						
	C:Scan PGS/Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 302	These SPs count by size these totals to compare of 8-442].	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	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 303	These SPs count by size the totals to compare of the total set.	ne total num riginal page	nber of pages scanned by the Fax application. Use e size (scanning) and output page size [SP 8-443].				
	S:Scan PGS/Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 305	These SPs count by size these totals to compare o	ne total num riginal page	ber of pages scanned by the Scan application. Use e size (scanning) and output page size [SP 8-445].				
	L:Scan PGS/Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 306	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].						
001	A3						
002	A4						
003	A5						
004	B4						
005	В5						
006	DLT						
007	LG	-					
008	LT						
009	HLT						
010	Full Bleed						
254	Other (Standard)						
255	Other (Custom)						

8 311	T:Scan PGS/Rez	*CTL	[0 to 9999999 / <b>0</b> / 1]				
	These SPs count by resolution setting the total number of pages scanned by applications that can specify resolution settings.						
	Scan PGS/Rez	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 31 <i>5</i>	e total number of pages scanned by applications						
	• At the present time, SP8-311 and 8-315 perform identical counts.						
001	1200dpi to						
002	600dpito1199dpi						
003	400dpito599dpi	-					
004	200dpito399dpi						
005	to199dpi						

- 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.

8 381	T:Total PrtPGS	*CTL	These CDs secondades according of a part of side of the state
8 382	C:Total PrtPGS	*CTL	customer. The counter for the application used for
8 383	F:Total PrtPGS	*CTL	storing the pages increments.
8 384	P:Total PrtPGS	*CTL	The L: counter counts the number of pages stored
8 385	S:Total PrtPGS	*CTL	from within the document server mode screen at the operation panel. Pages stored with the Store File
8 386	L:Total PrtPGS	*CTL	button from within the Copy mode screen go to the
8 387	O:Total PrtPGS	*CTL	C. courrier.

- 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.

8 391	LSize PrtPGS	*CTL	[0 to 9999999 / <b>0</b> / 1]			
	These SPs count pages printed on paper sizes A3/DLT and larger.					
	<ul> <li>In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.</li> </ul>					

8 401	T:PrtPGS/LS	*CTL	
8 402	C:PrtPGS/LS	*CTL	These SPs count the number of pages printed from the document server. The counter for the application
8 403	F:PrtPGS/LS	*CTL	used to print the pages is incremented. The Li counter counts the number of jobs stored from
8 404	P:PrtPGS/LS	*CTL	within the document server mode screen at the
8 405	S:PrtPGS/LS	*CTL	operation panel. [0 to 9999999 / <b>0</b> / 1]
8 406	L:PrtPGS/LS	*CTL	

- 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.

8 41 1	Prints/Duplex	*CTL	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. [O to 9999999 / <b>O</b> / 1]

8 421 T:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]
-------------------------	------	-------------------------------

	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing. This is the total for all applications.						
	C:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 422	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing by the copier application.						
	F:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 423	These SPs count by binding c for printing by the fax applic	nd combine, cation.	and n-Up settings the number of pages processed				
	P:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 424	These SPs count by binding c for printing by the printer ap	nd combine, plication.	and n-Up settings the number of pages processed				
	S:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 425	These SPs count by binding c for printing by the scanner c	nd combine, pplication.	and n-Up settings the number of pages processed				
	L:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 426	These SPs count by binding and combine, and n-Up settings the number of pages processed for printing from within the document server mode window at the operation panel.						
	O:PrtPGS/Dup Comb	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 427	These SPs count by binding c for printing by Other applice	nd combine, ations	and n-Up settings the number of pages processed				
001	Simplex> Duplex	-					
002	Duplex> Duplex	-					
003	Book> Duplex	-					
004	Simplex Combine	-					
005	Duplex Combine	-					
006	2>	2 pages on	1 side (2-Up)				
007	4>	4 pages on	1 side (4-Up)				
008	6>	6 pages on	1 side (6-Up)				

009	8>	8 pages on 1 side (8-Up)
010	9>	9 pages on 1 side (9-Up)
011	16>	16 pages on 1 side (16-Up)
012	Booklet	-
013	Magazine	-

- These counts (SP8-421 to SP8-427) 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	oklet	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	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 431	These SPs count the total number of which application was used.	ofpageso	utput with the three features below, regardless
	C:PrtPGS/ImgEdt	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 432	These SPs count the total number copy application.	r of pages	output with the three features below with the
8 434	P:PrtPGS/ImgEdt	*CTL	[0 to 9999999 / <b>0</b> / 1]

		These SPs count the total number of pages output with the three features below with the print application.					
		L:PrtPGS/ImgEdt		*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 436 These SPs count the total number of p window at the operation panel with t				of pages with the thr	of pages output from within the document server mode rith the three features below.		
		O:PrtPGS/ImgEdt		*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 437		These SPs count the total n applications.	e SPs count the total number of pages output with the three features below with Other ications.				
	001	Cover/Slip Sheet	Total number of covers or slip sheets inserted. The count for a cover printed on both sides counts 2.				
	002	Series/Book	The number of pages printed in series (one side) or printed as a book with booklet right/left pagination.				
	003	User Stamp	The number of pages printed where stamps were applied, including page numbering and date stamping.				

8 4 4 1	T:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
0 44 1	These SPs count by print paper size the number of pages printed by all applications.						
9.449	C:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
0 442	These SPs count by print papers	size the nur	nber of pages printed by the copy application.				
0 4 4 2	F:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
0 443	These SPs count by print paper	size the nu	e the number of pages printed by the fax application.				
	P:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 444	These SPs count by print paper size the number of pages printed by the printer application.						
	S:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 445	These SPs count by print paper size the number of pages printed by the scanner application.						
	L:PrtPGS/Ppr Size	*CTL	[0 to 9999999 / <b>0</b> / 1]				
8 446	These SPs count by print paper size the number of pages printed from within the document server mode window at the operation panel.						

0.447	O:PrtPGS/Ppr Size		*CTL		[0 to 9999999 / <b>0</b> / 1]
8 447	These SPs count by print p	ipei	r size the nu	ur	nber of pages printed by Other applications.
001	A3				
002	A4				
003	A5				
004	В4				
005	В5				
006	DLT	-			
007	LG				
008	LT				
009	HLT				
010	Full Bleed				
254	Other (Standard)				
255	Other (Custom)	-			

## • These counters do not distinguish between LEF and SEF.

0 451	PrtPGS/Ppr Tray		*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 43 1	These SPs count the	These SPs count the number of sheets fed from each paper feed station.				
001	Bypass	Вура	ss Tray			
002	Tray 1	Copier				
003	Bypass	Copier				
004	Tray 2	Paper Tray Unit (Option)				
005	Tray 3	Paper Tray Unit (Option)				
006	Tray 4	Paper Tray Unit (Option)				
007	Tray 5	Paper Tray Unit (Option)				
008	Tray 6	Currently not used.				

009	Tray 7	Currently not used.	
010	Tray 8	Currently not used.	

		T:PrtPGS/Ppr Type	*CTL	[0 to 9999999 / <b>0</b> / 1]		
		These SPs count by paper type the number pages printed by all applications.				
8 461		<ul> <li>These counters are not the same as the PM counter. The PM counter is based on feed timing to accurately measure the service life of the feed rollers. However, these counts are based on output timing.</li> <li>Blank sheets (covers, chapter covers, slip sheets) are also counted.</li> <li>During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1.</li> </ul>				
0.440		C:PrtPGS/Ppr Type	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 402		These SPs count by paper type the	number p	ages printed by the copy application.		
9 462		F:PrtPGS/Ppr Type	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 403		These SPs count by paper type the number pages printed by the fax application.				
8 464		P:PrtPGS/Ppr Type	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 404		These SPs count by paper type the number pages printed by the printer application				
		L:PrtPGS/Ppr Type	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 466		These SPs count by paper type the number pages printed from within the document server mode window at the operation panel.				
	001	Normal				
	002	Recycled				
	003	Special				
	004	Thick				
	005	Normal (Back)				
	006	Thick (Back)				
	007	ОНР				
	008	Other				

0 471	PrtPGS/Mag	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 47 1	These SPs count by magnification rate the number of pages printed.				
001	to49%				
002	50%to99%				
003 100%					
004	101%to200%				
005	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%.

8 481	T:PrtPGS/TonSave	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 484	P:PrtPGS/TonSave	*CTL	[0 to 9999999 / <b>0</b> / 1]
	These SPs count the number of pages printed with the Toner Save feature switched		nted with the Toner Save feature switched on.
	↓ Note		
	• These SPs return the same	e results as	this SP is limited to the Print application.

8 491	T:PrtPGS/Col Mode	*CTL	
8 492	C:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed
8 493	F:PrtPGS/Col Mode	*CTL	in the Color Mode by each application.
8 496	L:PrtPGS/Col Mode	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 497	O:PrtPGS/Col Mode	*CTL	

001	B/W
002	Single Color
003	Two Color
004	Full Color

8 501	T:PrtPGS/Col Mode	*CTL	These SPs count the number of pages printed
8 504	P:PrtPGS/Col Mode	*CTL	in the Color Mode or B/W Mode by the print application.
8 507	O:PrtPGS/Col Mode	*CTL	[0 to 9999999 / <b>0</b> / 1]
001	B/W		
002	Single Color		
003	Full Color		
004	Single Color		
005	Two Color		

0.511	T:PrtPGS/Emul	*CTL	[0 to 9999999 / <b>0</b> / 1]	
0011	These SPs count by printer en	nulation mod	le the total number of pages printed.	
0.514	P:PrtPGS/Emul	*CTL	[0 to 9999999 / <b>0</b> / 1]	
0314	These SPs count by printer emulation mode the total number of pages printed.			
001	RPCS			
002	RPDL			
003	PS3			
004	R98			
005	R16	-		
006	GL/GL2			
007	R55			
008	RTIFF			
009	PDF			

010	PCL5e/5c
011	PCL XL
012	IPDL-C
013	BM-Links
014	Other

- SP8 511 and SP8 514 return the same results as they are both limited to the Print application.
- Print jobs output to the document server are not counted.

0.501	T:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 521	These SPs count by finishing mode the total number of pages printed by all applications.				
	C:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 522	These SPs count by finishing mode the total number of pages printed by the Copy application.				
	F:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 523	These SPs count by finis	hing mode the	total number of pages printed by the Fax application.		
	♦ Note				
	Print finishing optic	ons for receive	ed faxes are currently not available.		
9 524	P:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 524	These SPs count by finishing mode the total number of pages printed by the Print application.				
	S:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 525	These SPs count by finishing mode the total number of pages printed by the Scanner application.				
	L:PrtPGS/FIN	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 526	These SPs count by finishing mode the total number of pages printed from within the document server mode window at the operation panel.				
001	Sort				
002	Stack				
003	Staple				

004	Booklet
005	Z-Fold
006	Punch
007	Other

## **Vote**

- 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.

	8 531	Staples	*CTL	This SP counts the amount of staples used by the machine.
				[0 to 9999999 / <b>0</b> / 1]

	T:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 581	These SPs count the total output broken down by color output, regardless of the application used. In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.				
001	Total				
002	Total: Full Color	Fotal: Full Color			
003	B&W/Single Color	&W/Single Color			
004	Development: CMY				
005	Development: K	Development: K			
006	Copy: Color				
007	Copy: B/W				
008	Print: Color	Print: Color			
009	Print: B/W				
010	Total: Color				
-011	Total: B/W				
012	Full Color: A3				

	T:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]			
8 581	These SPs count the to used. In addition to b in the User Tools disp	otal output broken down by color output, regardless of the application being displayed in the SMC Report, these counters are also displayed play on the copy machine.				
013	Full Color: -B4					
014	Full Color Print					
015	Mono Color Print					
016	Full Color GPC					

0.500	C:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]
6 362	These SPs count the total output	of the copy	application broken down by color output.
001	B/W		
002	Single Color		
003	Two Color		
004	Full Color		

0 502	F:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]
0 303	These SPs count the total output	t of the fax a	pplication broken down by color output.
001	B/W		
002	Single Color		

0.504	P:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]
0 304	These SPs count the total output of the print application broken down by color out		application broken down by color output.
001	B/W		
002	Mono Color		
003	Full Color		
004	Single Color		
005	Two Color		

0 504	L:Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]		
0 000	These SPs count the total output of the local storage broken down by color output.				
001	B/W				
002	Single Color				
003	Two Color				
004	Full Color				

	O:Counter	*CTL	[0 to 9999999 / 0 / 1]	
8 591	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.			
001	A3/DLT			
002	Duplex			

8 601	Cvg Counter	*CTL	[0 to 9999999 / <b>0</b> / 1]		
001	Cvg: BW %				
002	Cvg: FC %	Displays the total coverage of each mode.			
011	Cvg: BW Pages	Dianter with a number of the printer to in each mode			
012	Cvg: FC Pages	<ul> <li>Displays the number of the printouts in each mode.</li> </ul>			

0 4 2 1	T:FAX TX PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]
0 03 1	hese SPs count by color mode the number of pages sent by fax to a telephone nu		
0 4 2 2	F:FAX TX PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]
These SPs count by color mode the number of pages sent by fax to a telep		pages sent by fax to a telephone number.	
001	B/W		
002	Color		

 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.
- 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:IFAX TX PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 641	These SPs count by color mode Fax.	the number	of pages sent by fax to as fax images using I-
9 4 4 2	F:IFAX TX PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 043	These SPs count by color mode	the number c	of pages sent by Fax as fax images using I-Fax.
001	B/W		
002	Color		

- 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	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 651	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-Email PGS	*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 655	These SPs count by color mode the total number of pages attached to an e-mail for Scan application only.			
001	B/W			

#### 5. Service Tables

	002	Color
--	-----	-------

#### Vote

- 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	*CTL	[0 to 9999999 / <b>0</b> / 1]
8 661	These SPs count by color mode the both Scan and LS applications.	ne total nur	nber of pages sent to a Scan Router server by
8 665 S:Deliv PGS/Svr These SPs count the Scan applica	S:Deliv PGS/Svr	*CTL	[0 to 9999999 / <b>0</b> / 1]
	These SPs count by color mode the Scan application.	ne total nur	nber of pages sent to a Scan Router server by
001	B/W		
002	Color		

#### Note

- The B/W and Color counts are performed 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.

	T:Deliv PGS/PC         *CTL         [0 to 9999999/0/1]				
8 671	These SPs count by color mode th to-PC) with the Scan and LS appl	the total nun plications.	nber of pages sent to a folder on a PC (Scan-		
8 675	S:Deliv PGS/PC	*CTL	[0 to 9999999 / <b>0</b> / 1]		

	These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.
001	B/W
002	Color

#### Vote

- 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.

8 681	T:PCFAX TXPGS	*CTL	These SPs count the number of pages sent by PC Fax.	
8 683	F:PCFAX TXPGS	*CTL	These SPs are provided for the Fax application only, so the counts for SP8-681 and SP8-683 are the same. [0 to 9999999/ <b>0</b> / 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.)

8 691	T:TX PGS/LS	*CTL	These SPs count the number of pages sent from the
8 692	C:TX PGS/LS	*CTL	document server. The counter for the application that
8 693	F:TX PGS/LS	*CTL	[0 to 9999999/ 0 / 1]
8 694	P:TX PGS/LS	*CTL	The L: counter counts the number of pages stored from
8 695	S:TX PGS/LS	*CTL	panel. Pages stored with the Store File button from within
8 696	L:TX PGS/LS	*CTL	the Copy mode screen go to the C: counter.

### **Vote**

- 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	*CTL	[0 to 9999999 / <b>0</b> / 1]		
8 <i>7</i> 01	These SPs count the number example, if a 3-page origin (G3, G4) is 12.	oer of pages sent by the physical port used to send them. ginal is sent to 4 destinations via ISDN G4, the count for			
001	PSTN-1	-			
002	PSTN-2	-			
003	PSTN-3	-			
004	ISDN (G3,G4)	-			
005	Network	-			

8711	T:Scan PGS/Comp	*CTL	[0 to 9999999 / <b>0</b> / 1]
0 71 5	S:Scan PGS/Comp	*CTL	[0 to 9999999 / <b>0</b> / 1]
0715	These SPs count the number	of pages s	sent by each compression mode.
001	JPEG/JPEG2000		-
002	TIFF M/S (Multi/Single)		-
003	PDF		-
004	Other		-

9 7 4 1	RX PGS/Port	*CTL	[0 to 9999999 / <b>0</b> / 1]			
0741	These SPs count the number of pages received by the physical port used to receive them.					
001	PSTN-1	-				
002	PSTN-2	-				
003	PSTN-3	-				
004	ISDN (G3,G4)	-				
005	Network	-				

	Ink Botol Info.		*BCU	[0 to 9999999 / <b>0</b> / 1]			
	These SPs display the number of already replaced ink cartridges.						
8 781	♦ Note	Note					
	• Currently, the data in SP7-833-011 through 014 and the data in SP8-781-001 through 004 are the same.						
001	ВК	The number of black-ink cartridges					
002	Y	The number of yellow-ink cartridges					
003	М	The number of magenta-ink cartridges					
004	С	The number of cyan-ink cartridges					

8 791 LS Memory Remain	*CTL	This SP displays the percent of space available on the document server for storing documents. [0 to 100 / <b>0</b> / 1]
------------------------	------	--

	Ink Remain         * CTL         [0 to 100 / 0 / 1]					
8 801	These SPs display the percent of check the toner supply at any ti <b>Note</b> • This precise method of med machines in the market the	of ink remain me. asuring rema at can only n	ing for each color. This SP allows the user to aining ink supply (1% steps) is better than other neasure in increments of 10 (10% steps).			
001	К					
002	Y					
003	Μ	٨				
004	С					

	Cvr Cnt:0-10%	*BCU [0 to 9999999 / 0 / 1]				
8 851	These SPs display the number of from 0% to 10%.	of scanned sl	neets on which the coverage of each color is			
011	0-2%:Bk					

012	0-2%:Y
013	0-2%:M
014	0-2%:C
021	3-4%: Bk
022	3-4%: Y
023	3-4%: M
024	3-4%: C
031	5-7%: Bk
032	5-7%: Y
033	5-7%: M
034	5-7%: C
041	8-10%: Bk
042	8-10%: Y
043	8-10%: M
044	8-10%: C

	Cvr Cnt: 11-20%	*BCU	*BCU [0 to 9999999 / <b>0</b> / 1]				
8 861	These SPs display the number of scanned sheets on which the coverage of each color is from 11% to 20%.						
001	ВК						
002	Y						
003	Μ						
004	С						

8 871	Cvr Cnt: 21-30%	*BCU	[0 to 9999999 / <b>0</b> / 1]	
	These SPs display the number of scanned sheets on which the coverage of each color is from 21% to 30%.			

001	ВК
002	Y
003	Μ
004	С

	Cvr Cnt: 31%-	*BCU	*BCU [0 to 9999999 / <b>0</b> / 1]				
8 881	These SPs display the number of scanned sheets on which the coverage of each color is 31% or higher.						
001	ВК						
002	Y						
003	м						
004	С						

9 901	Page/Ink Bottle	*BCU	[0 to 9999999 / <b>0</b> / 1]			
8 8 9 1	These SPs display the number of sheets output by the scan application.					
001	ВК					
002	Y					
003	М					
004	С					

	Page/Ink Prev1         *BCU         [0 to 9999999/0/1]					
8 901	These SPs display the number of sheets output by the scan application with the previously replaced units.					
001	ВК					
002	Y					
003	Μ					
004	С					

	Page/Ink Prev2	*BCU [0 to 9999999 / 0 / 1]				
8911	These SPs display the number of sheets output by the scan application with the one before previously replaced units.					
001	ВК					
002	Y					
003	М					
004	С					

8 921	Cvr Cnt/Total	*BCU	[0 to 9999999 / <b>0</b> / 1]		
001	Coverage(%): BK				
002	Coverage(%): Y	These SPs display the total coverage percentage of sheets output by the machine.			
003	Coverage(%): M				
004	Coverage(%): C				
011	Covwerage/P: Bk	These SPs display the total coverage pages output by the			
012	Covwerage/P: Y				
013	Covwerage/P: M	machine.			
014	Covwerage/P: C	-			
021	Ink Cons(ml): BK				
022	Ink Cons(ml): Y	These SPs display the total ink consumption used by the m			
023	Ink Cons(ml): M				
024	Ink Cons(ml): C	-			

8 941	Machine Status	*CTL	[0 to 9999999 / <b>0</b> / 1]	
	These SPs count the amount of time the machine spends in each operation mode. These SPs are useful for customers who need to investigate machine operation for improvement in their compliance with ISO Standards.			
001	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).		

002	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.
003	Energy Save Time	Includes time while the machine is performing background printing.
004	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.
005	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.
006	SC	Total down time due to SC errors.
007	PrtJam	Total down time due to paper jams during printing.
008	OrgJam	Total down time due to original jams during scanning.
009	Spl PM Unit End	Total down time due to ink end.

9.051	AddBook Register	*CTL	-	
0 951	These SPs count the numbe	er of events when the machine ma		anages data registration.
001	User Code	User code registrations.		
002	Mail Address	Mail address r	egistrations.	
003	Fax Destination	Fax destination	n registrations.	-
004	Group	Group destination registrations.		[0 to 9999999 / <b>0</b> / 1]
005	Transfer Request	Fax relay destination registrations for relay TX.		-
006	F-Code	F-Code box registrations.		
007	Copy Program	Copy application registrations with the Program (job settings) feature.		
008	Fax Program	Fax application registrations with the Program (job settings) feature.		[0 to 255 / <b>0</b> / 255]

009	Printer Program	Printer application registrations with the Program (job settings) feature.	
010	Scanner Program	Scanner application registrations with the Program (job settings) feature.	

8 000	AdominCounter		*CTL	[0 to 9999999 / <b>0</b> / 1]	
8 999	Displays the user setting counter for administrator.				
001	Total	-			
002	Copy: FC	-			
003	Copy: BW	-			
006	Printer: FC	-			
007	Printer: BW	-			
008	Printer: OneC	-			
009	Printer: TwoC	-			
010	FaxP: BW	-			
011	FaxP: OneC	-			
012	A3/DLT	-			
013	Duplex	-			
014	Cvr: FC %	-			
015	Cvr: BW %	-			
016	Cvr: FC Pages	-			
017	Cvr: BW Pages	-			
101	SendTtl: FC	-			
102	SendTtl: BW	-			
103	FaxSend	-			
104	FaxSend: FC	-			

105 FaxSend: BW	-
-----------------	---

# **Printer Service Mode**

1001	Bit Switch				
001	Bit Swit	ch 1	0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	
	bit 3	No I/O Timeout	0: Disable	1: Enable	
		Enable: The MFPI/O Timeout setting will have no effect. I/O Timeouts will never occur.			
	bit 4	SD Card Save Mode	0: Disable	1: Enable	
		Enable: Print jobs will be saved to an SD Card in the GW SD slot (🖝 "p.420").			
	bit 5	DFU	-	-	
	bit 6	DFU	-	-	
	bit 7	[RPCS,PCL]: Printable area frame border	0: Disable	1: Enable	
		Enable: The machine prints all RPCS and PCL jobs with the printable area.	a border on th	e edges of the	

1001	Bit Switch				
002	Bit Switch 2		0	1	
	bit 0 DFU		-	-	
	bit 1	DFU	-	-	
	bit 2 DFU			-	
	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 sw is disabled, these jobs will not be printed properly.				
	bit 4	DFU	-	-	
	bit 5	DFU	-	-	

	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch					
003	Bit Swit	ch 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, In other words, the left margin defined in the job (usually " <esc>*rOA") changed to "<esc>*r1A"</esc></esc>					
	bit 3	bit 3 DFU -				
	bit 4	DFU	-	-		
	bit 5	DFU	-	-		
	bit 6	DFU	-	-		
	bit 7	DFU	-	-		

1001	Bit Switch		
004	Bit Switch 4 <b>DFU</b>	-	-

1001	Bit Switch					
005	Bit Swit	ch 5	0	1		
	bit 0	DFU				
	bit 1	DFU	-	-		
	bit 2	DFU	-	-		
	bit 3	[PS] PS Criteria	Pattern4	Pattern 1		
		Change the number of PS criterion used by the PS interpereter to determine whethe a job is PS data or not.				
	Pattern4: includes most PS commands.					
--	--------------------------------------	--	------------------	------------------	--	--
		Pattern1: A small number of PS tags and headers				
	bit 4	Increase max number of the stored jobs to 1000 jobs.	Disable (100)	Enable (1000)		
		Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type seetings to 1000. The default is 100.				
	bit 5	Face-up output	Disable	Enable		
Enable: All print jobs will be output face-up in the destination		ination tray.				
	bit 6	DFU	_	_		
	bit 7	DFU	_	_		

1001	Bit Switch		
006	Bit Switch 6 <b>DFU</b>	-	-

1001	Bit Switch		
007	Bit Switch 7 <b>DFU</b>	-	-

1001	Bit Swite	Bit Switch			
008	Bit Swite	ch 8	0	1	
	bit 0	DFU	-	-	
	bit 1	DFU	-	-	
	bit 2	DFU	-	-	
	bit 3 [PCL,PS]: Allow BW jobs to print without requiring User Code		Disable	Enable	
Enable: BW jobs submitted without a user code w authentication is enabled.		Enable: BW jobs submitted without a user code will be authentication is enabled.	be printed even if usercode		
	<b>●</b> Note				
	<ul> <li>Color jobs will not be printed without a valid user code.</li> </ul>				
	bit 4	DFU	-	-	

	bit 5	DFU	-	-
	bit 6	[PS]: Orientation Auto Detect Fuction	Enable	Disable
Disable: Automatically chooses page orientations of PostScript Portrait) based on the content printed on the page.		ostScript jobs (L	andscape or	
	bit 7	DFU	-	-

1003	[Clear Setting]	
1003 1	Init. System	Initializes settings in the System menu of the user mode.
1003 3	Delete Program	DFU

1004	[Print Summary]	
1004 1	Service Summary	Prints the service summary sheet (a summary of all the controller settings).

1005	[Disp. Version]
1005 1	Displays the version of the controller firmware.

1101	[ToneCtlSet]		
11011	Tone (Factory)	*CTL	Recalls a set of aamma settings. This can be either a)
1101 2	Tone (Prev.)	*CTL	the factory setting, b) the previous setting, or c) the
11013	Tone (Current)	*CTL	current setting.

	[ToneCtlSet]	*CTL	
1102	Sets the printing mode (resolution) for the printer gamma adjustment. The asterisk (*) shows which mode is set.		
	Refer to the tone control selection list following these SP tables		

1103	[PrnColorSheet]	
1103 1	ToneCtlSheet	Prints the test page to check the color balance before and after the gamma adjustment.

1103 2 ColorChart	
-------------------	--

1104	[ToneCtlValue]				
1104	Adjusts the printer gamma for the mode selected in the Mode Selection menu.				
1104 1	Set Black 1	*CTL			
1104 21	Set Cyan 1	*CTL			
1104 41	Set Magenta 1	*CTL			
1104 61	Set Yellow 1	*CTL			
1104 2	Set Black 2	*CTL			
1104 22	Set Cyan 2	*CTL	[0 + 255 / 22 / 1 / + - 1]		
1104 42	Set Magenta 2	*CTL	[0 to 255 / <b>32</b> / 1/step]		
1104 62	Set Yellow 2	*CTL			
1104 3	Set Black 3	*CTL			
1104 23	Set Cyan 3	*CTL			
1104 43	Set Magenta 3	*CTL	[U to 255 / <b>48</b> / 1/step]		
1104 63	Set Yellow 3	*CTL	-		
1104 4	Set Black 4	*CTL			
1104 24	Set Cyan 4	*CTL			
1104 44	Set Magenta 4	*CTL	[0 to 255 / <b>04</b> / 1 / step]		
1104 64	Set Yellow 4	*CTL			
1104 5	Set Black 5	*CTL			
1104 25	Set Cyan 5	*CTL	[0+ 055 ( <b>00</b> / 1 / + - ]		
1104 45	Set Magenta 5	*CTL			
1104 65	Set Yellow 5	*CTL			
1104 6	Set Black 6	*CTL			
1104 26	Set Cyan 6	*CTL	[U to 255 / <b>96</b> / 1/step]		

Set Magenta 6	*CTL	
Set Yellow 6	*CTL	
Set Black 7	*CTL	
Set Cyan 7	*CTL	[0 to 255 ( <b>112</b> / 1 ( to a)]
Set Magenta 7	*CTL	
Set Yellow 7	*CTL	
Set Black 8	*CTL	
Set Cyan 8	*CTL	[0 + 255 / 129 / 1 / then]
Set Magenta 8	*CTL	
Set Yellow 8	*CTL	
Set Black 9	*CTL	
Set Cyan 9	*CTL	[0 to 255 / 144 / 1 / tom]
Set Magenta 9	*CTL	
Set Yellow 9	*CTL	
Set Black 10	*CTL	
Set Cyan 10	*CTL	[0 + 255 / 160 / 1 / then]
Set Magenta 10	*CTL	
Set Yellow 10	*CTL	
Set Black 11	*CTL	
Set Cyan 11	*CTL	[0 + 255 / 174 / 1 / then]
Set Magenta 11	*CTL	
Set Yellow 11	*CTL	
Set Black 12	*CTL	
Set Cyan 12	*CTL	[0 to 255 / 102 / 1 / ttop]
Set Magenta 12	*CTL	
Set Yellow 12	*CTL	
	Set Magenta ó Set Yellow ó Set Black 7 Set Cyan 7 Set Magenta 7 Set Yellow 7 Set Black 8 Set Yellow 7 Set Magenta 8 Set Yellow 8 Set Set Yellow 8 Set Set Cyan 9 Set Magenta 9 Set Magenta 9 Set Yellow 9 Set Black 10 Set Yellow 9 Set Black 10 Set Cyan 10 Set Set Nagenta 10 Set Yellow 10 Set Yellow 10 Set Black 11 Set Yellow 11 Set Set Cyan 11 Set Set Yellow 11 Set Set Set 12 Set Cyan 12	Set Magenta 6*CTLSet Yellow 6*CTLSet Black 7*CTLSet Cyan 7*CTLSet Magenta 7*CTLSet Yellow 7*CTLSet Yellow 7*CTLSet Black 8*CTLSet Cyan 8*CTLSet Yellow 8*CTLSet Yellow 9*CTLSet Cyan 9*CTLSet Yellow 9*CTLSet Yellow 9*CTLSet Yellow 9*CTLSet Yellow 9*CTLSet Yellow 10*CTLSet Cyan 10*CTLSet Cyan 11*CTLSet Yellow 11*CTLSet Yellow 11*CTLSet Shack 12*CTLSet Magenta 12*CTL

1104 13	Set Black 13	*CTL	
1104 33	Set Cyan 13	*CTL	[0 to 255 ( <b>209</b> / 1 / to a]
1104 53	Set Magenta 13	*CTL	
1104 73	Set Yellow 13	*CTL	
1104 14	Set Black 14	*CTL	
1104 34	Set Cyan 14	*CTL	[0 + 255 / 224 / 1 / stan]
1104 54	Set Magenta 14	*CTL	
1104 74	Set Yellow 14	*CTL	
1104 15	Set Black 15	*CTL	
1104 35	Set Cyan 15	*CTL	[0 + 255 / 240 / 1 / stan]
1104 55	Set Magenta 15	*CTL	
1104 75	Set Yellow 15	*CTL	

	[ToneCtlSave]
1105	Saves the print gamma (adjusted with the Gamma Adj.) as the new Current Setting. Before the machine stores the new "current setting", it moves the data stored as the "current setting" to the "previous setting" memory-storage location.

1106	[Toner Limit]				
1100	Adjusts the maximum toner amount for image development.				
1106 1	TonerLimitPhot	*CTL	[100 to 400 / <b>260</b> / 1 %/step]		
1106 2	TonerLimitText	*CTL	[100 to 400 / <b>200</b> / 1 %/step]		

	[FactoryTestPrt]
1107	Prints the test page to check the color balance before transportation (600 x 600 2 bit). <b>DFU</b>

1108	[Ext. Toner Save]		
1108 1	Mode 1: Text		DFU

1108 2	Mode 2: Text	
1108 3	Mode 1: Image	
1108 4	Mode 2: Image	
1108 5	Mode 1: Line	
1108 6	Mode 2: Line	
1108 7	Mode 1: paint	
1108 8	Mode 2: Paint	

## Tone Control Setting: SP1102-001

Input Number	Paper Type	Resolution	Mode
0		200 d-:	Photo
1		300 api	Text
2	Dinin Dana an		Photo
3	- Plain Paper	600 d-:	Text
4		000 api	Photo
5			Text
6	High Grade Plain Paper		Photo
7		600 dpi	Text
8			Photo
9			Text
10			Photo
11			Text
12			Photo
13	- Glossy Paper	600 d-:	Text
14		ουυ αρι	Photo
15			Text

Input Number	Paper Type	Resolution	Mode
16			Photo
17			Text
18		600 d-:	Photo
19	Off	000 api	Text
20			Photo
21			Text
22	Envelop	600 dpi	Photo
23			Text
24		600 dpi	Photo
25	Envelop		Text
26			Photo
27			Text
28			Photo
29			Text
30	Envelop for Ink jet (Japan Only)	600 d-:	Photo
31			Text
32			Photo
33			Text

# Scanner SP Mode

## SP1-xxx (System and Others)

1004	[Compression Type]			
1004	Selects the compression type for binary picture processing.			
1004 1	Compression Type	*CTL	[ 1 to 3 / <b>1</b> / 1/step ] 1: MH, 2: MR, 3: MMR	

	[Erase margin]				
1005	Creates an erase margin for all edges of the scanned image.				
	If the machine has scanned the edge of the original, create a margin.				
1005 1	Range from 0 to 5 mm	*CTL	[0 to 5 / <b>0</b> / 1 mm/step ]		

1009	[Remote scan disable]	*CTL	[ 0 to 1 / <b>0</b> / 1 /step] 0: enable, 1: disable		
1009 1	Enable or disable the TWAIN network scan.				

## SP2-XXX (Scanning-image quality)

	[Compression ratio of gray-scale]						
2021	Selects the compression ratio for grayscale processing mode (JPEG) for the three settings that can be selected at the operation panel.						
2021 1	Level 3 (Standard compression)		[ 5 to 95 / <b>40</b> / 1 /step ]				
2021 2	Level 2 (Higher compression)		[ 5 to 95 / <b>50</b> / 1 /step ]				
2021 3	Level 4 (Lower compression) *CTL		[ 5 to 95 / <b>30</b> / 1 /step ]				
2021 4	Level 1 (Highest compression)		[ 5 to 95 / <b>60</b> / 1 /step ]				
2021 5	Level 5 (Lowest compression)		[ 5 to 95 / <b>20</b> / 1 /step ]				

## **Using SP Modes**

### Adjusting Registration and Magnification

To adjust the registration and magnification, you need to use several service programs. The chart shows an example of the procedure to adjust the machine in the basic configuration.

#### Display APS Data (SP 4301 1)

#### - Sensor Positions -

The APS (auto paper select) sensors are arranged as shown in the diagram.

#### - Reading the Data -

Example 1	Example 2
• (7)00001100(0) [0C]	• Paper Size: 00000011 [03]

Example 1 indicates that the paper size and its orientation is " $8^{1}/_{2} \times 13$  SEF," and that the document feeder (or platen cover) is open. Example 2 indicates that the paper size and its orientation is "A4 LEF," and that the document feeder (or platen cover) is closed.

The "Paper Size" data starts with eight digits. The first digit indicates the output of L2; the second digit, L1; the third digit, W2; and the fourth digit, W1. The other four digits (from the fifth through the eighth) are always "0000." In Example 1, the APS sensors L2 and L1 Detect paper (W2 and W1 do not).

In Example 2, APS sensors W2 and W1 detect paper (L2 and L1 do not). The paper size and its orientation is based on the outputs of these four APS sensors.

The "DF Open" data shows "1" or "0," indicating if the document feeder (or platen cover) is open or closed respectively. The data is based on the output of the platen cover sensor [A].

## **Memory Clear**

The machine stores the engine data in the NVRAM on the BICU, and stores the other data in the NVRAM on the controller. To distinguish between the engine data and the other data, see SP5801-1 through 19. This service program (SP 5801) handles the controller data. Any data that is not handled by SP 5801 is the engine data. The data in the BICU NVRAM (engine data) is cleared by SP5998-1 while the data in the controller NVRAM (controller data) is cleared by SP 5801-xxx (for exceptions, see "xxx").

Machine	Data	NVRAM	Cleared by	Remarks
	Engine data	BICU	SP 5801-002	Any data other than controller data
MFP	Controller data	Controller	SP 5801-003, 004, 005	SCS, IMH, MCS, Copier application, Fax application, Printer application, Scanner application, Web service/network application, NCS, R- Fax, DCS, UCS

#### - Exceptions -

SP5801-1 clears most of the settings and counters stored in the NVRAM on the BICU (the values return to their default values). However, the following settings are not cleared:

- SP 5807 (Area Selection)
- SP 5811-1 (Serial Num Input [Code Set])
- SP 5811-2 (Serial Num Input [ID2 Code Display])
- SP 5812-1 (Service TEL [Telephone])
- SP 5812-2 (Service TEL [Facsimile])
- SP 5907 (Plug & Play)
- SP 7 (Data Log)
- SP 8 (History)

SP 5801-1 (MFP machine) after you have replaced the BICU NVRAM or when the BICU NVRAM data is corrupted. When the program ends normally, the message "Completed" is displayed. When you have replaced the controller NVRAM or when the controller NVRAM data is corrupted, use SP 5801-1. The message is the same as the basic machine.

- 1. Upload the NVRAM data to a flash memory card (
  NVRAM Data Upload/Download).
- 2. Print out all SMC data lists ( SMC Print).

#### Vote

- Be sure to print out all the lists. You have to manually change the SP settings if the NVRAM data
  upload ends abnormally.
- 3. Select SP 5801-2.
- 4. Press the OK key.
- 5. Select "Execute." The messages "Execute?" followed by "Cancel" and "Execute" are displayed.
- 6. Select "Execute."

- 7. When the program has ended normally, the message "Completed" is displayed. If the program has ended abnormally, an error message is displayed.
- 8. Press the cancel key.
- 9. Turn the main switch off and on.
- 10. Download the NVRAM data from a flash memory card (
  NVRAM Data Upload/Download).

## Input Check (SP 5803)

#### - Conducting an Input Check -

- 1. Select SP 5803.
- 2. Select the number (see the table below) corresponding to the component.
- 3. Select "Execute." The copy mode is activated.
- 4. The sign "1H" or "OH" is displayed (see the table below).

#### - Input Check Table -

Num.	Sensor/Switch	1H	ОН
001	Safety SW	Open	Close
002	Front Cover SW (Front door)	Open	Close
003	Right Cover SW (Right door)	Open	Close
004	Left Cover SW (Left upper door)	Open	Close
005	Left LowCover SW (Left lower door)	Open	Close
006	Straight Cover SW	Open	Close
	(Multi-duplex exit door)		
007	Manual Cover SW	Open	Close
	(Duplex entrance door)		
008	Exit Cover SW	Open	Close
	(Exit tray cover left and right)		
009	Mech Counter (Mechanical counter)	Detected	Not detected
010	Regist Sensor (First registration sensor)	Paper detected	Not detected
011	Belt In Sensor (Engine entrance sensor)	Paper detected	Not detected

Num.	Sensor/Switch	1Н	ОН	
012	Image Reg Sensor (Second Registration Sensor)	Paper detected	Not detected	
013	Branch Sensor (Junction gate sensor)	Paper detected	Not detected	
014	Exit Sensor	Paper detected	Not detected	
015	Mun PE S (Paper end Sensor: By-pass)	Paper detected	Not detected	
016	OP Sensor (Relay sensor)	Paper detected	Not detected	
017	Upper PE S (Paper end sensor: Tray 1)	Paper detected	Not detected	
018	Upper P Size S (Paper size switch: Tray1)	*1		
019	System Temp (Temperature sensor)	Display at 5	to 45°C	
020	System Humidity (Humidity sensor)	Display at 0 to 100 %		
021	By-pass PE S (Multi-bypass paper detection sensor)	Paper detected	Not detected	
022	By-pass P Size S (Multi-bypass paper size sensor)	*1		
023	Duplex Installed (Duplex unit selection switch )	Duplex unit detected	Not detected	
024	Duplex Entrance S (Duplex entrance sensor)	Paper detected	Not detected	
025	Duplex Internal S (Duplex wait sensor)	Paper detected	Not detected	
026	Duplex Inverter S (Duplex inverter sensor)	Paper detected	Not detected	
027	Duplex Exit S (Duplex exit sensor)	Paper detected	Not detected	
028	Duplex R-Cover SW (Duplex right door Switch)	Open	Close	
029	Duplex L-Cover SW (Duplex left door Switch)	Open	Close	

Num.	Sensor/Switch	1Н	ОН		
030	BK Installed (Optional paper tray unit detection switch)	OPT detected	Not detected		
031	BK-Upper PE S (Paper end sensor: Tray 2)	Paper detected	Not detected		
032	BK-Upper P Size S (Paper size switch: Tray 2)	* ]			
033	BK-Upper Lift S (Paper upper limit sensor: Tray 2)	Paper detected	Not detected		
034	BK-Up P Height S (Paper height sensor: Tray 2)	Paper detected	Not detected		
035	BK Cover SW (Right door switch: Optional paper tray unit)	Open	Close		
038	BK type	00: Not installed, 01: One tray unit 02: Two tray unit			
039	BK-Low PE S (Paper end sensor: Tray 3)	Paper detected	Not detected		
040	BK-Low P Size S	00: Not installed	, 02: A4 LEF,		
	(Paper size switch: Tray 2)	03: A4 SEF, 05: B4	4 SEF, 07: B5 LEF,		
		08: B5 SEF, OC: A5	SEF, OF: A3 SEF		
041	BK-Low Lift S (Paper upper limit sensor: Tray 3)	Detected	Not detected		
042	BK-Low P Height S (Paper height sensor: Tray 3)	Detected	Not detected		
046	Air Detected S (Air sensor pin at printer head)				
047	Filler S (Tank full sensor)	Detected	Not detected		
048	Cartrg Det:Y (Ink cartridge detection sensor for yellow)	Detected	Not detected		
049	Cartrg Det:M (Ink cartridge detection sensor for magenta)	Detected	Not detected		

Num.	Sensor/Switch	1Н	ОН	
050	Cartrg Det:C	Detected	Not detected	
	(Ink cartridge detection sensor for cyan)			
051	Cartrg Det:K	Detected	Not detected	
	(Ink cartridge detection sensor for black)			
052	New Cartridge:Y	New	Not new	
053	New Cartridge:M	New	Not new	
054	New Cartridge:C	New	Not new	
055	New Cartridge:K	New	Not new	
056	Ink Remainder:Y	0 to 10	0%	
057	Ink Remainder:M	0 to 10	0%	
058	Ink Remainder:C	0 to 100%		
059	Ink Remainder:K	0 to 100%		
060	Refill Cartrg:Y	Refill cartridge	Not refill	
061	Refill Cartrg:M	Refill cartridge	Not refill	
062	Refill Cartrg:C	Refill cartridge	Not refill	
063	Refill Cartrg:K	Refill cartridge	Not refill	
064	Maintenance-M HP S	Detected	Not detected	
	(Maintenance unit HP sensor)			
065	Waste Ink Full S			
	(Ink collection bottle full sensor)			
066	Mist-Fan Lock	Detected	Not detected	
067	Carig Enc-Counter	Detected	Not detected	
	(Main scan encoder sensor)			
068	Carriage Lift S	Carriage lift	Not lift	
069	Head Temperature	Displayed at 0 to 55°C		
070	Belt Enc-Counter			

Num.	Sensor/Switch	1Н	ОН	
	(Sub scan encoder sensor)			
071	Belt Temperature	Displayed at (	D to 55°C	
072	PP-Leak Detect (High voltage unit current leak detection)	Detected	Not detected	
073	Print Exit Sens (Paper exit sensor)	Detected	Not detected	
074	DRESS Sens	Not us	ed	
100	Key-Card Sensor	Detected	Not detected	
101	Key-Cnt Sensor	Detected	Not detected	
	(Key counter detection sensor)			
200	Scanner HP Sensor	Detected	Not detected	
201	Platen Opn Sens (Platen cover sensor)	Close	Open	
202	DF Installed (DF detection sensor)	Installed	Not installed	
203	DF-Position S	Close	Open	
204	DF-Cover Open S	Close	Open	
205	DF-Original Set S	Detected	Not detected	
206	DF-Registration S	Detected	Not detected	
207	DF-Exit S	Detected	Not detected	
208	DF-Trailing S	Detected	Not detected	
209	DF-Reverse S	Detected	Not detected	

## - \*1 Paper Size: Tray1, 2 -

	00	02	03	04	05	06	07
Europe	DLT SEF	LT LEF	LG SEF	A4 SEF	Foolscap	A4 LEF	Not set
North America	A3 SEF	LT LEF	A5 LEF	LT SEF	Foolscap	A4 LEF	Not set

\_

Paper Feed Unit	00	02	03	05	07	0C	OF
Europe	Not set	A4 LEF	A4 SEF	DLT SEF	LT LEF	LG SEF	A3 SEF
North America	Not set	A4 LEF	A4 SEF	DLT SEF	LT LEF	lg sef	A3 SEF

#### - \*1 Paper Size: By-Pass Tray -

By-Pass Tray	03	07	09	OB	0C	OD	OE
Europe	A4 SEF		A3	F/GL			A5 SEF
North America	LT SEF		DLT				HLT SEF

#### - \*2 Paper Amount -

10	Near end
11	About 25%
00	About 75%
00	About 100%

#### - \*3 Available Paper Feed Unit -

00	None
20	2-tray paper feed unit
30	1-tray paper feed unit

## Output Check (SP 5804)

## Conducting an Output Check

## 

- To prevent mechanical or electrical damage, do not keep an electrical component on for a long time.
- 1. Select SP 5804.

- 2. Select the number (see the table below) corresponding to the component.
- 3. Select "ON."
- 4. To stop the operation, select "OFF."

### **Output Check Table**

Number 005, 006, 040, and 041 may not respond when the fusing temperature is high.

Num.	Component			
002	Feed M-Fwd 130			
003	Upper Feed CL (Paper feed clutch: Tray 1)			
005	Guide SOL			
006	Exit M-Fwd 295			
007	Exit M-Fwd 105			
008	Branch SOL			
009	By-Pass CL			
010	Duplex M-Fwd 295			
011	Reverse M-Fwd 295			
012	Reverse M-Fwd 146			
013	Duplex CL			
014	Duplex Branch SOL			
015	BK-Up M-Fwd			
016	BK-Up Relay CL			
017	BK-Up Lift M-Up			
018	BK-Up Lift M-Dw			
019	BK-Low M-Fwd			
020	BK-Low Relay CL			
021	BK-Low Lift M-Up			

Num.	Component			
022	BK-Low Lift M-Dw			
023	Supply M-Fwd K2			
024	Supply M-Fwd K			
025	Supply M-Fwd C			
026	Supply M-Fwd M			
027	Supply M-Fwd Y			
028	Air Open SOL			
029	Maintenance M-Fwd			
031	Carriage M-Fwd			
032	Belt M-Fwd 290			
033	Belt M-Fwd 100			
034	PP High:4mm			
035	PP High:8mm			
036	PP High:12mm			
037	PP High:16mm			
038	PP High:20mm			
039	PP Low:4mm			
040	PP Low:8mm			
041	PP Low:12mm			
042	PP Low:16mm			
043	PP Low:20mm			
044	Decap			
045	Capping			
51	Reg M-Fwd 290			
52	Reg M-Fwd 100			

Num.	Component			
53	Feed Motor 100			
54	Carig M-Fwd DRESS (Not Used)			
58	Relay Clutch			
100	Carig FreeRun (Caridge unit free run)			
101	Belt FreeRun (Belt unit free run)			
102	BeltCarig FreeRun			
	(Belt unit and Caridge unit free run)			
202	Scanner Lamp			
203	DF-Feed M			
204	DF-Duplex M			
205	DF-Feed CL			
206	DF-Pickup SOL			
207	DF-Stamp SOL			
208	DF-Gate SOL			

## NVRAM Data Upload/Download (SP 5824/5825)

## 

• Make sure that you turn off the main switch before inserting or removing an SD card. Installing or removing an SD card while the main switch is on may damage the BICU or SD card.

#### - Overview -

You can copy the data from the NVRAM to an SD card (NVRAM Upload), or from an SD card to the NVRAM (NVRAM download).

SP 5824-1 (NVRAM Upload)	From the BICU to an SD card
SP 5825-1 (NVRAM Download)	From an SD card to the BICU

You should execute NVRAM Upload before replacing the NVRAM or before executing SP 5801-2 ( Memory Clear). You can copy back the data from the SD card to the NVRAM as necessary.



#### - NVRAM Upload (SP 5824-1) -

Print out the SMC reports ("SP Mode Data" and "Logging Data") with SP5990-001 before you do the NVRAM upload.

- 1. Turn off the main power switch.
- 2. Remove the slot cover [B] ( $\hat{\beta}^2 \times 1$ ).
- Face a label of an SD card [A] ("A" is printed on it) to the rear side, and insert it into the SD card slot 3 (service slot).
- 4. Turn on the main power switch.
- 5. Start the SP mode and select SP 5824-1.
- 6. The machine erases the settings on the SD card (if any), then writes the machine's settings to the SD card. This takes about 20 seconds. If uploading fails, an error message appears. If an error message appears, retry the upload procedure.
- 7. Turn off the main power switch.
- 8. Remove the SD card.

#### - NVRAM Download (SP 5825-1) -

SP 5825-1 copies the data from the SD card to the NVRAM. The following data is NOT copied (the data in the NVRAM remains unchanged).

- SP8581-xxx (Total counter)
- 1. Turn off the main power switch.
- 2. Remove the slot cover [B] ( $\hat{\mathscr{F}} \ge 1$ ).
- Face a label of an SD card [A] ("A" is printed on it) to the rear side, and insert it into the SD card slot 1, and insert it into the SD card slot 3 (service slot).
- 4. Turn on the main power switch.
- 5. Start the SP mode and select SP 5825-1.

- 6. The machine erases the current settings, then writes the new settings onto the NVRAM on the BICU board. This takes about 1 second. If downloading fails, an error message appears. If an error message appears, retry the download procedure.
- 7. Turn off the main power switch.
- 8. Remove the SD card.

#### Firmware Update Procedure

This section shows how to update the firmware of the machine.

- 1. Turn the main power switch off.
- 2. Remove the slot cover ( $\hat{\beta}^2 \times 1$ ).
- Face a label of an SD card [A] ("A" is printed on it) to the rear side, and insert it into the SD card slot 3 (service slot).
- 4. Turn on the main power switch.
- 5. Slect a firmware that you want to update.

#### 🕗 Note

- You can update multiple firmware at the same time. However, it is not possible to update controller firmware (System/Copy, Network, Support, Fax and Web Support) at the same time. Update a controller firmware one by one.
- 6. Press "Execute" [C].
- 7. Do not touch any key while the message "Load Status..." is displayed. This message indicates that the program is running.
- 8. Check that the message "End Sum..." is displayed. This message indicates that the program has ended normally.
- 9. Turn off the main power switch (on the rear cover).
- 10. Remove the SD card.
- 11. Install the slot cover.
- 12. Turn on the main power switch.
- 13. Check the operation.

## SD Card Appli Move

#### Overview

The service program "SD Card Appli Move" (SP5-873) lets you copy application programs from one SD card to another SD card.

Slot 1 and Slot 2 are used to store application programs. Slot 3 is for maintenance work only. You cannot run application programs from Slot 3. However, you can move application programs from Slot 3 to Slot 2. Do the following procedure if you want to move an application procedure from Slot 3:

- 1. Choose an SD card with enough space.
- Enter SP5873 "SD Card Appli Move". Then move the application from the SD Card in Slot 3 to Slot
   2.

#### ✔Note

- Do steps 1-2 again if you want to move another application program.
- 3. Exit the SP mode.

Be very careful when you do the SD Card Appli Move procedure:

- The data necessary for authentication is transferred with the application program from an SD card to another SD card. Authentication fails if you try to use the SD card after you copy the application program from one card to another card.
- Do not use the SD card if it has been used before for other purposes. Normal operation is not guaranteed when such an SD card is used.
- Keep the SD card in a safe place after you copy the application program from one card to another card. This is done for the following reasons:
  - 1. The SD card can be the only proof that the user is licensed to use the application program.
  - 2. You may need to check the SD card and its data to solve a problem in the future.
- You cannot copy PostScript data to another SD card. You have to copy other data to the SD card that stores the PostScript data.

#### Move Exec

The menu "Move Exec" (SP5-873-001) lets you copy application programs from the original SD card to another SD card.

#### Comportant 🔁

- Do not turn ON the write protect switch of the system SD card or application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.
- 1. Turn the main switch off.
- 2. Make sure that an SD card is in SD Card Slot 2. The application program is copied into this SD card.
- 3. Insert the SD card (having stored the application program) in SD Card Slot 3. The application program is copied from this SD card.
- 4. Turn the main switch on.
- 5. Start the SP mode.

- 6. Select SP5-873-001 "Move Exec."
- 7. Follow the messages shown on the operation panel.
- 8. Turn the main switch off.
- 9. Remove the SD card from SD Card Slot 3.
- 10. Turn the main switch on.
- 11. Check that the application programs run normally.

#### Undo Exec

"Undo Exec" (SP5-873-002) lets you copy back application programs from an SD card to the original SD card. You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

Comportant 🗋

- Do not turn ON the write protect switch of the system SD card or application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.
- 1. Turn the main switch off.
- 2. Insert the original SD card in SD Card Slot 2. The application program is copied back into this card.
- 3. Insert the SD card (having stored the application program) to SD Card Slot 3. The application program is copied back from this SD card.
- 4. Turn the main switch on.
- 5. Start the SP mode.
- 6. Select SP5-873-002 "Undo Exec."
- 7. Follow the messages shown on the operation panel.
- 8. Turn the main switch off.
- 9. Remove the SD card from SD Card Slot 2
- 10. Remove the SD card from SD Card Slot 3 and insert it in SD Card Slot 2.

#### **Vote**

- This step assumes that the application programs in the SD card are used by the machine.
- 1. Turn the main switch on.
- 2. Check that the application programs run normally.

#### SMC Print (SP 5990)

SP 5990 outputs machine status lists.

- 1. Select SP 5990.
- 2. Select a menu:
  - 001 All (Data List), 002 SP (Mode Data List), 003 User Program, 004 Logging Data, 005 Diagnostic Report, 006 Non-Default, 007 NIB Summary, 021 Copier User Program, 022 Scanner SP, 023 Scanner User Program,

## 

- The output given by the menu "Big Font" is suitable for faxing.
- 3. Press the "Execute" key.
  - MFP machine: The machine status list is output.
- 4. To return to the SP mode, press the 🛞 key.

## ADF APS Sensor Output Display (SP 6901)

#### - Sensor Positions -

	Large to Small			
W1	1	0	0	1
W2	0	0	1	1

#### - Reading Data -

	14/2	11		Paper Size	
VV I	VV Z	LI	LZ	NA	EU/AA
1	1	1	1	11" x 17"	A3
0	1	1	1	-	Β4
0	0	1	1	8 <sup>1</sup> / <sub>2</sub> " x 14"	8 <sup>1</sup> / <sub>2</sub> " x 13"
0	0	1	0	8 <sup>1</sup> / <sub>2</sub> " x 11"	A4 SEF
1	1	0	0	11" x 8 <sup>1</sup> / <sub>2</sub> "	A4 LEF
0	1	0	0	-	B5 LEF
0	0	0	0	8 <sup>1</sup> / <sub>2</sub> " X 5 <sup>1</sup> / <sub>2</sub> "	A5 LEF

1: Detected

### **Card Save Function**

#### Overview

#### Card Save:

- The Card Save function is used to save print jobs received by the printer on an SD card with no print
  output. Card Save mode is toggled using printer Bit Switch #1-4. Card Save will remain enabled until
  the SD card becomes full, or until all file names have been used.
- Captures are stored on the SD card in the folder /prt/cardsave. File names are assigned sequentially from PRT00000.prn to PRT99999.prn. An additional file PRT.CTL will be created. This file contains a list of all files created on the card by the card save function.
- Previously stored files on the SD card can be overwritten or left intact. Card Save SD has "Add" and "New" menus.
  - Card Save (Add): Append files to the SD Card. Do not overwrite existing files. If the card becomes full or if all file names are used, an error will be displayed on the operation panel. Subsequent jobs will not be stored.
  - Card Save (New): Overwrite files in the card's /prt/cardsave directory.

#### Limitation:

• Card Save cannot be used with PJL Status Readback commands. A PJL Status Readbacks will not work. In addition they will cause the Card Save to fail.

#### Procedure

1. Turn the main power switch OFF.



d045t101

- 2. Insert the SD card into the slot 3 (service slot) of the controller board. Then turn the power ON.

Note

- To determine which slot is the service slot, please see the service manual.
- 3. Enter SP mode.
- 4. Select "Printer SP".
- 5. Select "Service Mode" and press "OK" button.
- 6. Select "1.001 Bit Switch" and press "OK" button.

PRINTER (Class) 1.001 Bit Switch

 Use the arrow key to turn "Bit Switch 4" and use the numeric key "4" to turn bit 4 ON. The result should look like: 00010000. By doing this Card Save option will appear in "List/Test Print".



- 8. Press the "Escape" button several times to exit SP Mode.
- 9. Press the "User Tools/Counter" button.
- 10. Use the arrow key and select "Printer Features".

User Tools	
Fax Features	
Printer features	

11. Use the arrow key and select "List/Test Print".

Print Features	
List/Test Print	
Maintenance	
System	

d045t106

12. Use the arrow key and select "Cardsave (ADD) or Cardsave (New).



- 13. To enable the newly configured settings, select "switch" button and then press the "Escape" button to exit the "List/Test Print" menu.
- 14. Send a job to the printer.
- 15. As soon as the printer receives the data, it will be stored on the SD card automatically with no print output. Nothing is displayed on the screen indicating that a Card Save operation was successful.
- 16. Press the "Online" button and then the "Escape" button to exit Card Save mode.
- 17. Change the Bit Switch Settings back to the default 00000000.
- 18. Remove the SD card after main power switch is turned off.

#### Error Messages

Card Save error messages:

- Init error: A card save process (i.e. card detection, change to kernel mode) failed to initialize.
- Card not found: Card cannot be detected in the slot.
- No memory: Insufficient working memory to process the job.
- Write error: Failed to write to the card.

• Other error: An unknown error occurred.

If an error occurs, pressing "OK" will cause the device to discard the job and return to the ready state.

5. Service Tables

# Overview

## Component Layout



b229d201

1. Scanner H.P. Sensor	18. First Registration Sensor
2. 3rd Mirror	19. By-pass Paper Feed Roller
3. 2nd Mirror	20. Paper Size Switch
4. Exposure Glass	21. Vertical Transport Roller
5. Original Width Sensors	22. Paper Feed Roller
6. Exposure Lamp	23. Sub-scan Encoder
7. 1st Mirror	24. Charge Roller

8. Original Length Sensors	25. Sub-scan sensor
9. Lens Block	26. Engine Exit Sensor
10. CCD	27. Ink Cartridge Black
11. SBU	28. Ink Cartridge Cyan
12. Scanner Motor	29. Ink Cartridge Magenta
13. Engine Unit	30. Ink Cartridge Yellow
14. Engine Entrance Sensor	31. Junction Gate Sensor
15. One-sheet By-pass Tray	32. Junction Gate
16. By-pass Tray	33. Paper Exit Roller
17. Registration Roller	34. Paper Exit Sensor

# Paper Path



- 1. Original Tray
- 2. Original Exit Tray
- 3. One-sheet By-pass Tray
- 4. By-pass Tray
- 5. Duplex Feed
- 6. Tray 2: Optional One-tray Paper Tray Unit/Two-tray Paper Tray Unit
- 7. Tray 3:Optional Two-tray Paper Tray Unit
- 8. Duplex Inverter
- 9. To the Duplex Unit
- 10. Straight Exit Tray
- 11. Standard Tray

This model can use the optional duplex unit and paper tray unit.

## Drive Layout



1. Scanner Motor	6. Relay Clutch
2. Exit Motor	7. By-pass Clutch
3. Sub Scan Motor	8. Registration Motor
4. Feed Motor	9. Main Scan Motor
5. Feed Clutch	

# **Board Structure**

### **Block Diagram**



#### 1. BICU (Base – Engine and Image Control Unit)

The main board controls the following functions:

- Engine sequence
- Timing control for peripherals
- Image processing, video control
- Drive control for the sensors, motors, and clutches of the copier and scanner
- High voltage supply board control
- Serial interfaces with peripherals

#### 2. Controller

The controller board controls the following functions.

- Machine-to-host interface
- Operation panel interface
- Network interface
- Interfacing and control of the optional IEEE1284, Bluetooth, IEEE802.11b (wireless LAN), HDD, and DRAM DIMM

#### 3. CONIJ (Connect Ink Jet Module)

The CONIJ is connecting board between COM and BICU board and COM and IOB board.

#### 4. COM

The COM board controls the print heads.

#### 5. SBU (Sensor Board Unit)

The SBU deals with the analog signals from the CCD and converts them into digital signals.

#### 6. IOB (I/O Control Board)

The IOB controls the motors, solenoids and high voltage power supply of the engine unit.

#### 7. PSU (Power Supply Unit)

The PSU supplies DC to the machine.

## 8. FCU (Fax Control Unit): Optional

The FCU controls the fax programs and communicates with the controller to share copier resources.

#### 9. HDD (Hard Disk Drives)

This board stores all the temporary files for job processing and all permanent files for the document server.

### 10. DRV (Drive Board)

The DRV controls the motors and solenoids of the engine unit.

#### 11. Power Pack

The power pack generates the static charge, transfer belt or paper transfer.
## **Copy Process Overview**

## Scanning

A xenon lamp exposes the original. Light reflected from the original passes to the CCD, where it is converted into an analog data signal. This data is converted to a digital signal, processed and stored in the memory. At the time of printing, the data is retrieved and sent to the COM board, which controls the carriage unit.

#### Processing

The ink jet engine processes an image to the paper with the carriage unit. The carriage unit has 5 print heads (K1, K2, C, M, Y). It scans the paper from rear (home position) to front to print an image to the paper. The carriage scans in two mode, one-way scanning and two-way scanning. Two-way scanning saves time because the carriage can print an image at returning way (front to rear).

The printing speed differs depending on the mode, resolution, paper type and so on.

### Printing

This machine uses the ink jet engine. As a result, it is not necessary to fuse the ink on the paper. However, the machine may need time to exit the paper depending on the high ink coverage on the paper or installation environment. This waiting time prevents the paper from becoming curl.

## Scanning

## Overview



b229d203a

1. Scanner H.P. Sensor	6. CCD
2. Exposure Glass	7. Scanner Motor
3. Exposure Lamp	8. Original Length Sensor
4. 1st Scanner	9. Original Width Sensors
5. Lens Block	

The original is illuminated by the exposure lamp (a xenon lamp). The image is reflected onto a CCD (charge coupled device) on the lens block via the 1 st, 2nd, and 3rd mirrors, and through the lens on the lens block.

The 1st scanner consists of the exposure lamp, a reflector, and the 1st mirror.

A lamp stabilizer energizes the exposure lamp. The light reflected by the reflector is of almost equal intensity, to reduce shadows on pasted originals.

An optics anti-condensation heater is available as an option. It can be installed on the left side of the scanner. It turns on whenever the power cord is plugged in.

## Lamp Stabilizer Fuse

	Rating	Manufacturer	Type No.
Fuse	1.25A	BEL FUSE INC	MRT

## Scanner Drive



A stepper motor drives the 1st and 2nd scanners [A, B]. The 1st scanner and 2nd scanner are driven by the scanner drive motor [C], drive gear through the timing belt [D], scanner drive pulley [E], scanner drive shaft [F], and two scanner wires [G].

#### Book Mode

The BICU controls and operates the scanner drive motor. In full size mode, the 1st scanner speed is 100 mm/s in B/W mode and 66.6 mm/s in color mode during scanning. The 2nd scanner speed is half that of the 1st scanner.

In reduction or enlargement mode, the scanning speed depends on the magnification ratio. The returning speed is always the same, whether in full size or magnification mode. The image length change in the sub scan direction is done by changing the scanner drive motor speed, and in the main scan direction it is done by image processing on the BICU board.

Magnification in the sub-scan direction can be adjusted by changing the scanner drive motor speed using SP4-008.

#### ADF Mode

The scanners are always kept at their home position (the scanner H.P. sensor [H] detects the 1st scanner) to scan the original. The ADF motor feeds the original through the ADF. In reduction/enlargement mode, the image length change in the sub-scan direction is done by changing the ADF motor speed. Magnification in the main scan direction is done in the BICU board, like for book mode.

Magnification in the sub-scan direction can be adjusted by changing the ADF motor speed using SP6-006-005.



In the optics cavity for original size detection, there are four reflective sensors. The original width sensors [A] detect the original width, and the original length sensors [B] detect the original length. These are the APS (Auto Paper Select) sensors. Each APS sensor is a reflective photosensor.

While the main switch is on, these sensors are active and the original size data is always sent to the CPU. However, the CPU checks the data only when the platen cover sensor [C] is activated. This is when the platen is positioned about 15 cm above the exposure glass, for example while it is being closed. The CPU can recognize the original size from the combination of on/off signals from the APS sensors.

If the copy is made with the platen fully open, the CPU decides the original size from the sensor outputs when the Start key is pressed.

6



#### [A]: NA, [B]: EU/ASIA

Origiı	nal Size	Length	Sensors	Width	Sensors	SP4-301
A4/A3 version	LT/DLT version	L2	L1	W2	W1	display
A3	11" x 17"	1	1	1	1	00001111
B4	_	1	1	1	0	00001110
8.5" x 13"	8.5" x 14"	1	1	0	0	00001100
A4-SEF	8.5" x 11"	0	1	0	0	00000100
A4-LEF	11" x 8.5"	0	0	1	1	00000011
B5-LEF	_	0	0	1	0	00000010
A5-LEF	8.5" x 5.5"	0	0	0	0	00000000

### Note

• 0: High (no paper), 1: Low (paper present)

The above table shows the outputs of the sensors for each original size. This original size detection method eliminates the necessity for a pre-scan and increases the machine's productivity.

For other combinations, "Cannot Detect Original Size" will be indicated on the operation panel display (if SP4-303 is kept at the default setting).

However, if the by-pass feeder is used, note that the machine assumes that the copy paper is short-edge first. For example, if A4 paper is placed long-edge first on the by-pass tray, the machine assumes it is A3 paper and scans the full A3 area for the first copy of each page of the original, disregarding the original size sensors. However, for each page, the data signal to the laser diode is stopped to match the copy paper length detected by the registration sensor. This means that copy time for the first page may be slower (because of the longer time required for scanning), but it will be normal for the rest of the job.

Original size detection using the ADF is described in the manual for the ADF.

## Image Processing

## SBU (Sensor Board Unit)

#### SBU

The VPU (Video Processor Unit) does the following functions:

- Black level correction
- White level correction
- Gradation calibration
- ADS control (Background Density)
- Creating the SBU test pattern

#### **Operation Summary**

The signals from the 3-line CCD, one line for each color (R, G, B) and 2 analog signals per line (ODD, EVEN), are sampled by the ASIC and converted to digital signals in the 10-bit A/D converter. This is the first phase of processing the data scanned from the original.

#### **Storing Operation Settings**

The controller stores the SBU settings. These values must be restored after the lens block is replaced:

SP4008 001	Sub Scan Mag	Sub Scan Magnification Adjustment
SP4010 001	Sub Scan Reg	Sub Scan Registration Adjustment
SP4011 001	Main Scan Reg	Main Scan Registration Adjustment

Also, before lens block replacement, enter the SP mode and note the settings of SP4800-001 to 003 (ARDF density adjustments for R, G, B). After lens block replacement, do some copy samples with the ARDF, then check the copies. If the copies have background, change SP4800-001 to 003 to their previous settings, or adjust until the background is acceptable. These SP codes are also used to adjust the ARDF scanning density, if the scanning densities of the ARDF and the platen mode are not the same.

#### SBU Test Mode

There are two SP codes to create a test pattern which can be used as a diagnostic tool to troubleshoot problems in the SBU:

6

SP4907-001 SBU Pattern - Test Pattern SP4907-002 SBU Pattern - Select Fixed Pattern To print the pattern: Select the pattern to print. Touch "Copy Window" then press the Start key twice.

## BICU (Base - Engine Image Control Unit)

The BICU does the following:

- Controls the scanner
- Processes the image signals from the SBU and sends them over the PCI bus to the controller memory
- Receives the image processing signals sent over the PCI bus from the controller memory, processes them, then outputs them to the BATTI.
- Controls the relay of power and signals

Image processing, ADS correction, and line width correction are done on the BICU board for all the digital data sent from the SBU. Finally, the processed data is sent to the printer as digital signals (2 bits/pixel).

# **Carriage Unit**

## Overview



## **Print Head**



d045r161

## [A]: 32.3 mm (1.27")

The wider print head increases the width of the band printed with one pass. This enables the machine to print faster.

## **Print Head Specifications**

ltem	Remark
Number of Print Heads	5 (Y, M, C, K1, K2)
Number of Nozzles	384 x 4 colors 192 nozzles x 2 lines/head
Array	Cross-Hatch (150 dpi x 2 lines)
Voltage Element	Piezoelectric

## Two Black Print Heads

This machine has two black print heads on the carriage unit. As a result, it makes copy/print speed faster in B/W mode than comparible machines with only one black print head, and print at 600 dpi in one pass.



Line A of K1: ①, Line A of K2: ②, Line B of K1: ③, Line B of K2: ④

The following drawing shows the pixel pattern in 600dpi B/W solid printing mode.



If the gap between 1-3 and 2-4 is different, an image problem may occur.

The carriage prints an image with a forward pass [A] (rear to front) and in reverse with a reverse pass [B] (front to rear). Also if If the gap between 1-3 and 1\*-3\*, 1-3 and 2\*-4\* is different, an image gap between forward and reverse may occur.

This can be adjusted with SP3-002. For details, reffer to the "Initial Setting" in the section "Installation Procedure".

#### **Image Processes**

#### Plain paper 1:

- Print Mode: 1 scan, B/W·Color (Speed)
- Drive Wave: Mj1 (2 Value)
- Print Method: 300dpi, 1 pass, 1/1 Interlace, Bidrectional
- Nozzle Value: 384 nozzle
- Nozzle Pitch (mm): 384 / 32.512



#### Plain paper 2:

- Print Mode: 1 scan, B/W·(Normal)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 1 pass, 1/1 Interlace, Uni-drectional
- Nozzle Value: 384 nozzle x 2
- Nozzle Pitch (mm): 384 / 32.512



d045t109

#### Plain paper 3:

- Print Mode: 2 scan, Color (Normal)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 1 pass, 1/2 Interlace, Bidrectional
- Nozzle Value: 380 nozzle
- Nozzle Pitch (mm): 3 + 1/2, 376 + 1/2 / 0.296, 31.877

6



#### Plain paper 4:

- Print Mode: 4 scan, B/W·Color·(Quarity)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 2 pass, 1/2 Interlace, Uni-drectional
- Nozzle Value: 378 nozzle
- Nozzle Pitch (mm): 94 + 1/2, 8.001



#### Other Plain paper 1:

- Print Mode: 4 scan, B/W·Color·(Normal)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 2 pass, 1/2 Interlace, Uni-drectional
- Nozzle Value: 378 nozzle
- Nozzle Pitch (mm): 94 + 1/2, 8.001



#### Other Plain paper 2:

- Print Mode: 8 scan, B/W·Color·(Quarity)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 4 pass, 1/2 Interlace, Uni-drectional
- Nozzle Value: 380 nozzle
- Nozzle Pitch (mm): 47 + 1/2, 4.022



#### Glossy paper 1:

- Print Mode: 4 scan, B/W·Color·(Copy)
- Drive Wave: Mj2 (4 Value)
- Print Method: 600dpi, 2 pass, 1/2 Interlace, Uni-drectional
- Nozzle Value: 378 nozzle

Nozzle Pitch (mm): 94 + 1/2, 8.001



#### Glossy paper 2:

- Print Mode: 8 scan, B/W·Color·(Normal)
- Drive Wave: Mj2 (4 Value)
- Print Method: 1200dpi, 2pass, 1/4 Interlace, Uni-drectional
- Nozzle Value: 382 nozzle
  - Nozzle Pitch (mm): 47 + 3/4, 4.043



#### Glossy paper 3:

- Print Mode: 16 scan, B/W·Color·(Quarity)
- Drive Wave: Mj4 (4 Value)
- Print Method: 1200dpi, 4pass, 1/4 Interlace, Uni-drectional

Note

- Need the function upgrade option
- Nozzle Value: 380 nozzle
- Nozzle Pitch (mm): 23 + 3/4, 2.011



## "Pass", "Interlace" and "Scan"

The following diagrams explain Pass, Interlace and Scan.





d045t117

6

## Print Head Tank



d045r162

1: Ink Supply Port
2: Ink Reservoir
3: Air Release Valve
4: Tank Full Lever
5: Plastic Bellows

This copier employs a dual-tank system. Each print cartridge (YMCK) is connected to a print head tank with a plastic tube. The first "tank" of the dual-tank system is the cartridge that supplies the ink through a tube to the print head tank unit, and the second "tank" is the ink reservoir inside the print head tank unit.

Both the high volume Print cartridges and the carriage components are extremely lightweight.

A print head tank has four main parts as shown above:

- Ink supply port: Ink enters here from the ink cartridge mounted under the operation panel.
- Ink reservoir: This is where ink collects before it is fed to the print head below.
- Plastic Bellows: A spring forces out the flexible, thin plastic film on the left side of the ink tank.
- Tank Full Lever: When the ink tank is mounted in the copier, this lever pushes the bellows down to increase pressure in the ink reservoir.
- Air release valve: Vents periodically to keep the ink inside the ink tank unit under the prescribed pressure.



This machine has five independent units.

- Each print head tank [A] has an independent print head [B] with a nozzle array [C].
- Each print head tank holds 6ml of ink.





Each print head uses a piezo-electric element (PZT) [A]. This forces ink from the ink reservoirs out of the ink nozzles and onto the paper.

This is done with pressure. At the prescribed time, an electric charge is given to the PZT. This makes the PZT expand. The expansion of the PZT [B] puts pressure on the ink [C] below. This makes the ink move in both directions. The ink on the right is forced out the ejection port [D].

This device is unique. You cannot see this device in other copiers on the market, that generally use small heaters to form bubbles to eject ink from the ports.

## Ink Near End



Each print head has a tank full lever [A]. This lever presses against a spring loaded bellows in the center of the print head tank. The rear side of each tank is constructed of flexible plastic:

- As ink enters the tank, the pressure of the ink pushes against the side of the tank and moves the lever away from the side of the print head tank.
- As ink is consumed during printing, the vacuum created by the ink leaving the tank pulls the lever toward the side of the print head tank.

The tank full sensor [B], mounted above the left frame, checks the front and rear positioning of the tank full lever every time the carriage passes below.

When the tank full sensor detects the lever against the side of the tank, the copier sends a prescribed amount of ink to the tank from the Print cartridge.

The sensor signals the 'ink near-end' if the tank full lever does not return to the full position (away from the side of the tank) within the prescribed time after the copier requests another fill from the Print cartridge or ink drop number. The sensor signals the 'ink near-end' when detecting one ehther.

After the near-end alert, the copier will continue to print (B/W mode: approximately 700 sheets, Color mode: approximately 200 to 250 sheets) with the ink that remains in the partially filled tank until the copier issues the ink end alert. (
"Ink Out" in this section)

## Ink Out



Two sensor pins [A] monitor air in the print head tank. These pins detect changes in the voltage differential on the surface of the ink inside the print head tank.

When these terminals detect excess air in the tank:

- The air release solenoid [B] energizes and opens the air release valve [C] so air can escape from the ink reservoir.
- This allows more ink to enter the tank.
- This is a continuous operation. The sensor pin readings signal the ink-out condition when:
- The ink near-end alert has been issued.
- The amount of air detected in the tank indicates that no ink remains in the tank.

Also, as a backup measure, the firmware performs a print count for the amount of ink consumed after every near end occurrence. When this count reaches the value prescribed for the toner cartridge, this will also signal an ink-out condition.

## Paper Registration and Size Detection Sensor



- 1. Second Registration Sensor
- 2. Transport Belt
- 3. Paper (Leading Edge)

The second registration sensor is attached to the front side of the carriage. The carriage moves from rear to front during printing.

The second registration sensor performs two important functions for printing control:

- Detects the leading edge and trailing edge of every sheet
- Detects the width of the paper when the carriage and sensor pass in main scan direction over the side edges of the paper as it feeds.

#### Comportant 🔂

- This is not automatic paper size detection. The paper size must be set with the paper size switch on the paper tray.
- The copier will signal an alert if the detected size does not match the size selected with the paper size switch on the paper tray.

For more, see "Leading Edge and Page Width Detection" and "Trailing Edge Detection".

# Ink Supply Unit

## Overview



b229d706a

1: Ink Cartridge x 4 (with Viscous Ink: Y, M, C, K)

2: Supply Pump Unit

3: Supply Tube

6

## **Print Cartridges**



There is a separate Print cartridge for each color (Y, M, C, K). Each Print cartridge is vacuum packed [A]. All the colors (Y, M, C, K) of Viscous ink are pigment inks.

- Requires only standard PPC to get quality printouts (special paper is not required).
- Prevents smearing due to rapid drying (there is less chance of smearing dry ink).
- Prevents fading in bright light. This makes colors highly durable.

## Print Cartridge Set Sensor



Print cartriges are detected via four electrical contacts [A] per cartridge (with an IC chip in each artridge).

Each tank has an IC chip. The machine cannot specifically detect if a Print cartridge is not set correctly. Open switches signal the following:

- A cartridge is not in the machine
- A cartridge is not installed correctly

To solve this problem, open the front door of the copier and check if:

- A cartridge is not in the machine
- A cartridge is not installed correctly

## Ink Supply Pump



The ink supply pump is divided into three compartments:

- [A]: K compartment (for Black 1 and 2 Print cartridges)
- [B]: C compartment (for Cyan Print cartridge)
- [C]: M/Y compartment (for Magenta & Yellow Print cartridges)

Each compartment contains:

- 1 ink supply motor [D]
- 1 or 2 pumps [E] (one pump for each Print cartridge)
- 1 or 2 cams [F] (one cam for each Print cartridge)
- 1 One-way clutch (not shown)

When a print head tank needs ink:

- The copier switches on the ink supply motor. The motor and its worm gear get rotated forward or backward (depending on which type of ink is required). (Only one pump can operate at a time.)
- A one-way clutch engages and drives the shaft to operate the cam that repeatedly strikes a pump arm to siphon ink from the cartridge.
- The ink supply motor operates long enough to pump the prescribed amount of ink to the tank. Then it switches off.

## **Maintenance Unit**

## Overview



- 1: Flushing Gate
- 2: Maintenance Unit

## **Maintenance Unit**



d045p100a

The maintenance unit does these two important functions:

- Keeps the surface of the print heads moist at the time they are not in use.
- Cleans the print heads with suction at the time cleaning is done with the copier driver. (The print heads are also cleaned automatically at prescribed intervals.

The caps [A] cover the (downward facing) surface of the print heads. This occurs when the carriage stays at the home position on the right side of the copier.

The first cap [B] is the only cap that can siphon excess ink from a print head. The ink gets siphoned from the head with a simple pressure tube-pump mechanism.

You must do the following to the maintenance unit in order to position the print head properly for the siphon procedure:

- Lower the maintenance unit
- Move the carriage to the left. This prepares the print head for cleaning (for details, see following pages).

Vote

 There is a moisturizer sponge in cap number one (cyan) which absorbs ink moisture, keeping the surface of the nozzle put in contact with it from drying out. (To compensate for cyan's tendency towards quick drying).

The maintenance motor [C] rotates forward, causing two cams to lower, allowing the heads to press against the bottom. Then the motor reverses at the prescribed time, which disengages a one-way clutch attached to the main shaft. Then it drives the second shaft to rotate the cam of the tube-pump mechanism.

At the prescribed time, the motor runs forward again until a feeler on the main shaft gets to the gap of the maintenance HP (Home Position) sensor [D]. Then it switches the motor off.

Another cam attached to the main shaft raises and lowers the wiper [E]. The wiper scrapes clean the surface of the print head above (facing down) as the carriage moves left and then right.

#### Maintenance Unit Cleaning Cycle

The operator can start the cleaning operation from the copier driver or the operation panel.

- You can choose a specific print head for cleaning (or clean them all) if you start the clean job in UP mode or SP mode.
- All the print heads are cleaned if the job starts from the operation panel.



Cleaning starts with the carriage and print heads [A] capped and resting on top of the maintenance unit [B].



When the cleaning cycle starts, the maintenance unit [C] is lowered by the rotation of the main shaft. Then the cams rotate away from the bottom of the unit.

At the same time, the carriage [D] moves to the front side.



The carriage moves the first print head (in this example, "K1" one of the black print heads) above the first vent [E] of the maintenance unit.

Note

• Only the first vent can siphon ink.

Another cam on the main shaft presses the maintenance unit up so the print head (K) covers the first vent.

At this time the maintenance motor reverses. The one-way clutch disengages the main shaft and engages the second shaft. This operates the tube-pump. The suction from the pump below sucks ink [F] from the surface of the print head.



The maintenance [G] unit lowers.

Another cam raises the wiper [H]. At the same time, the carriage moves the print heads to the front side far enough so the vacuumed print head can make contact with the wiper. The wiper [I] scrapes ink from the print head.



Then the carriage [J] moves rear to the home position, and the maintenance unit caps the print heads [K].

6

A cam on the main shaft below moves a pair of small vertical scrapers [L], which remove ink from the wall of the trap. This removed ink then goes to the ink collection tank.

#### Comportant 🗋

- This cycle repeats for each print head when you start a clean job from the operation panel.
- If cleaning is done from the copier driver, the operator has the option of selecting one or more print heads (in any combination), or all print heads, for cleaning.
  For more, see Troubleshooting.

## Ink Collection Tank



The wiper [A] scrapes the residual ink off each printer head. As a result, the ink collection tank [B] holds used ink from the maintenance unit above and the flushing gate. Used ink enters the tank at the ink collection port [C].

The capacity of the ink collection tank is 1232 ml. The copier should be able to use the ink collection tank for about 70K pages of normal use. The tank has an ink collection tank full sensor [D]. The sensor detects when the ink collection tank gets full (hardware detection). In addition to that sensor, the copier calculates the total amount of flushed ink and judges when the ink collection tank gets to the near-full or full condition (software detection).

## Ink Collection Tank Full Detection



There are two different methods for determining when the ink collection tank reaches a full condition;

i) Detection by the ink collection tank full sensor [A] (hardware detection).

ii) Estimation of accumulation of flushed ink (software detection).

The ink collection tank full sensor [A] is a reflective photosensor. The photosensor measures the changes in the density of the ink materials in the tank. This lets you know when the tank is full.

When this sensor detects a near-full condition, a "tank near-full" prompt informs the user that the copier needs maintenance. The default setting of near-full is set as 980 ml. At the time the maintenance alert is first indicated, these amounts can be printed out:

• 300 to 500 prints (B/W mode)/ 50 prints (Color mode)

These are only rough estimates. Fewer pages get printed if many normal and full print head cleanings are done after the maintenance alert.

A "tank is full" prompt shows when this sensor detects an ink full condition. You cannot use the copier when the sensor detects an ink full condition. At this time, you must replace the ink collection tank. After replacing the ink collection tank, you must reset the counter with SP7804-005.

## **Flushing Gate Unit**



The machine flushes all the nozzles with some amount of ink to keep the nozzles clear and in good working condition when one of a number of conditions is met. The flushing gate [A] and the flushing collection unit (below the gate) are located at the right side of the engine unit.

#### **Before Each Printing Job**

The machine flushes all the nozzles (384 nozzles per head) with the following amount of ink whenever the machine receives a printing job.

## **During Printing**

The machine flushes all the nozzles (384 nozzles/head) with the following amount of ink and at the following intervals during a printing job.

The following lists are organized into three tables (**Table1**, **Table2**, **Table3**) by temperature. When you select one of the tables, you have to choose a humidity range from the list below (see "**Humidity**"). The setting of SP value to "1" (SP2-509-002) reduces nozzle blocking, however this comes at the expense of increased consumption of ink.

#### Humidity:

	SP value "O" [ <b>Default</b> ]	SP value "1"
Table 1	Less than 35%	Less than 65%

Table2	More than 35% to less than 65%	More than 65%
Table3	More than 65%	Not used

## Table1:

Tananakan	Ink Drops		
remperature	C/M/Y	К	interval (Sec)
Less than 5°C	180	180	10
5°C to 10°C	150	150	10
10°C to 15°C	120	120	15
15°C to 20°C	90	100	15
20°C to 25°C	50	70	15
25°C to 30°C	50	70	15
30°C to 35°C	50	70	15
35°C or more	50	70	15

## Table2:

Tananahara	Ink Drops		
Temperature	C/M/Y	К	interval (Sec)
Less than 5°C	180	180	10
5°C to 10°C	150	150	10
10°C to 15°C	100	100	15
15°C to 20°C	70	80	15
20°C to 25°C	40	50	15
25°C to 30°C	40	50	15
30°C to 35°C	40	50	15
35°C or more	40	50	15

#### Table3:

Townsersture	Ink Drops		
remperature	C/M/Y	К	merval (Sec)
Less than 5°C	180	180	10
5°C to 10°C	150	150	10
10°C to 15°C	80	80	15
15°C to 20°C	60	70	15
20°C to 25°C	30	50	15
25°C to 30°C	30	50	15
30°C to 35°C	30	50	15
35°C or more	30	50	15

### Note

• The threshold can be changed via SP2-509-001 and 002.

#### **Automatic Cleaning**

Performs automatic cleaning after ejecting a certain quantity of ink (number of droplets), the threshold of which can be changed via SP2-514-001. There are three types of cleaning.

#### Automatic cleaning for charged mist:

The following list shows condition for the cleaning.

Condition	Threshold
Ink mist counter for print head is exceeded the de-cap threshold.	9000000
Ink mist counter for the selected print head is exceeded the between page threshold.	1000000

- SP7-222: Ink mist counter
- SP7-227: The number of automatic cleaning for charged mist
- The leaning values (frequency and threshold) can be set with SP2-514-001.

#### Automatic cleaning for powder:

The following list shows condition for the cleaning.

Condition	Threshold
The total fed paper number for the selected print head is exceeded the threshold. The threshold is fixed.	336

- SP7-302: Total fed paper number for the selected print head
- SP7-228: The number of automatic cleaning for powder

#### Automatic cleaning for de-cap:

The following list shows condition for the cleaning.

	Threshold		
Condition	Humidity *1	Idle Time	
		5 – 9 Hours	10 (or more) Hours
The time when the print head has not been covered is exceeded the threshold.	0 – 19%	1000min	60min
	20 – 49%	1000min	180min
	50 – 79%	1000min	480min
	80% (or more)	1000min	1000min

\* 1: The humidity sensor value of last idle

- SP7-229: The number of de-cap automatic cleaning
- SP7-703: The time when the print head has not been covered.

#### After Extended Idle Period

The machine cleans ink from all the nozzles when the machine has sat without any operation for over 10 hours.

Idle Time	Cleaning Mode	Head
10 - 167 Hours	Idle exhalation	B/W, Color
168 - 719 Hours	Cleaning	B/W
168 - 719 Hours	Cleaning	Color
720 (or more) Hours	Pour out ink	B/W, Color

Idle exhalation:

• Time from beginning of idle period to ink exhalation.

#### Cleaning:

• Head cleaning. The settings can be Individually set by B/W or Color.

Pour out ink:

• Empties the print head tank, and then refills the tank with ink.

## **Vote**

• The threshold can be changed via SP2-513-001 to 004.

#### For Maintenance Operation

The machine flushes all the nozzles with 0.06µl of ink after scraping the print heads when the machine performs "Initial Ink Filling", "Air Releasing and Ink Filling", "Head Cleaning" and "Refreshing".

# **Carriage Drive**

## Overview



b229d711

- 1: Main Scan Motor
- 2: Timing Belt
- 3: Guide Rod
- 4: Main Scan Encorder (Translucent Film)

6
## **Carriage Drive**



6

A main scan motor [A] drives the carriage unit via a timing belt [B] connected to the carriage.

The main scan encoder strip [C], mounted in left side of the timing belt is threaded through the main scan encoder sensor mounted on the carriage. This sensor detects the position of the carriage at the time the carriage moves from rear to front during printing.

The home position of the carriage unit is on the rear side of the copier.

## **Envelope Selector**



b229d712

Move the envelope selector [A] to adjust:

- The gap between the print heads
- The surface of the paper on the transport belt.

Pushing the lever down moves the print heads slightly away to provide proper clearance for thick paper and envelopes. This stops chaffing on the printing surface which can smear the ink.

A cam operates when the envelope selector is set for printing on thick paper or envelopes. This moves the guide rod to create a gap about 1.8 mm wider than the gap for normal printing.

This lever should normally be down and set for printing on regular paper.

# Paper Feed, Transport, Output

## Overview



b229d713

The lower picture shows the machine after the transport belt unit has been removed.

1: Transport Belt Unit
2: Sub-scan Encoder
3: Sub-scan Encoder Sensor
4: Sub-scan Motor
5: High Voltage Power Supply

#### 6: Charge Roller

## Leading Edge and Page Width Detection



There is no paper size sensor in the standard paper tray. The paper size must be selected with the paper size switch of the paper tray.

The second registration sensor [A], mounted on the carriage unit, moves from rear to front with the carriage during printing.

The second registration sensor detects the leading edge [B] and width [C] of the sheet for feed timing.



The engine entrance sensor [A], which is mounted at the left frame of the engine unit, detects the trailing edge of the sheet for feed timing.

#### **Paper Transport Drive**



The sub scan motor [A] drives the timing belt [B] that rotates the paper transport belt [C].

The edge of the rotary encoder [D], attached to the shaft of the transport roller, passes through the gap of the encoder sensor [E] as the encoder wheel rotates. The sub scan sensor reads the coded markings on the rim of the encoder and sends this information to the CPU. The CPU uses these readings to control the on/off timing of the transport belt:

#### 🔂 Important

• When servicing the machine, work carefully to prevent scratching, breaking, or bending the rotary encoder.

#### **Paper Path**

Here is a summary of the operation that sends paper through the copier:

- 1. The feed clutch energizes and engages the feed roller and the rotation of the vertical motor drives the feed roller.
- 2. Paper feed roller feeds one sheet from the top of the stack in the paper tray. A friction pad at the lip of the paper tray does not let the paper get double-fed.
- 3. The charge roller charges the transport belt. The charge on the transport belt lets the paper stay on the transport belt.

- 4. The sheet feeds onto the transport belt. Then the feeler of the engine entrance sensor rises and switches the engine entrance sensor on.
- 5. At the same time the second registration sensor goes on, the carriage moves to the rear, 40 mm from the center position. This lets the second registration sensor detect the leading edge of the paper.
- 6. The second registration sensor detects the right edge of the sheet when the carriage and second registration sensor move toward the HP sensor on the right.
- 7. The detection of the right edge by the second registration sensor is used to determine the width of the paper in the paper path.

#### Vote

- The second registration sensor reads the right edge of the sheet only once. This occurs at the time the first page gets fed for the print job. The second registration sensor does not detect the right edge for any sheet after the first sheet.
- 8. An area equal to the width of each print head gets printed when the carriage goes across the sheet from right to left.
- 9. This occurs when the last line gets printed. The transport roller rotates only long enough to feed the length of paper that stays. Then the paper exits the copier.
- 10. The print job count goes up by 1 after the paper has passed the engine exit sensor.

## Transport Belt



b229d715

This copier uses the BT (Belt Transfer) system to transport paper through the paper path.

A high voltage power supply [A] charges the charge roller below the transport belt [B].

The charge roller applies a bias charge to the transport belt. This static charge makes the paper adhere to the transport belt so the paper does not shift during transport and printing.

A temperature/humidity sensor, mounted near the GJ engine unit, monitors the temperature and humidity near the charge roller. The temperature/humidity values read from the sensor are used to adjust the width of the bias (bias pitch) applied to the transport belt. This operation, called belt charge control, operates within the following ranges of temperature and humidity:

• Temperature:

OC to 35C (32F to 95F), Adjusted in 2.5C (4.5F) steps

• Humidity:

0% to 100%, Adjusted in 10% steps

The machine uses the feedback of the temperature/humidity sensor to reduce the width of the charge applied to the transport belt below the print heads. This reduces the size of the electrical field to the smallest size that can still provide the optimum charge to keep the paper on the belt at the leading edge, center, and trailing edge of the paper without interfering with the operation of the print nozzles.

Belt charge control is done for every paper feed station (Tray 1, Tray 2, and bypass) and for every paper type (normal paper, envelopes, thick paper, and OHP).

The sharp curvature of the paper path separates the paper from the transport belt at the time paper gets fed out the paper exit.

## **Charge Leak Detection**



b229d714

(\* This picture shows the state after the transport belt unit has been removed.) The copier checks for and detects charge leaks at these times:

• Immediately after the copier is turned on.

- 6. Details
  - When it gets a leak detection signal from the high voltage power pack at the time of copier operation.

These happen when a charge leak gets detected:

- The voltage supply from the power pack [A] gets interrupted immediately
- The copier stops the current print job in progress.
- The carriage goes back to its home position.
- The print heads gets capped. The copier cannot operate.

Do these to let the copier go back to normal operation:

- You must remove the cause of the leak.
- Turn the copier off and on.

## **Paper Feed**

#### Overview



b229d554

There is a standard paper tray (250 sheets), a by-pass tray (100 sheets) and a one-sheet by-pass tray (one sheet only).

The standard paper tray and by-pass tray use a friction pad system. However, for the one-sheet by-pass tray, a sheet of paper is fed directly by the transport belt.

To prevent paper from getting caught inside the machine when the tray is pulled out, the paper feed roller and shaft do not separate from the tray when the tray is pulled out.

The first registration sensor and engine entrance sensor are used for paper jams. The relay sensor is used for paper jam detection when paper is fed up from the optional paper feed unit.

The components of the paper feed station are as follows.

1: One-sheet By-pass Tray Set Sensor	7: Relay Roller
2: Registration Roller	8: Friction Pad
3: First Registration Sensor	9: Paper End Sensor
4: By-pass Paper Feed Roller	10: Paper Feed Roller

5: By-pass Friction Pad	11: Transport Belt
6: Relay Sensor	12: Engine Entrance Sensor

## Paper Feed Drive Mechanism

## **Standard Tray**

6. Details



The feed motor [A] drives the pick-up and feed mechanism of both the first and second paper trays. The paper feed clutches [B] transfer drive from this motor to the paper feed rollers [C].

When the paper feed clutch turns on, the feed roller starts to feed the paper. The paper feed clutch stays on until shortly after the first registration sensor has been activated.

6

#### Paper Feed

#### **By-pass Tray**



When the by-pass tray set sensor [A] detects paper, the machine goes into ready condition. The feed motor [B] drives the feed roller [D] via the by-pass clutch [C]. The by-pass tray set sensor also detects the paper end when the filler [E] interrupts the sensor.



One-sheet By-pass Tray

When the one-sheet by-pass tray [A] is opened, the machine shows "Make sure the machine has stopped. Then open the 1 sheet by-pass Output tray". The machine can detect a sheet of paper on the one-sheet by-pass tray via the set detection filler [B]. If the one-sheet by-pass output tray is opened with a sheet of paper set on the tray, the one-sheet by-pass shutter solenoid [C] is activated and the one-sheet by-pass

shutter [D] is opened. As a result, a sheet of paper can be inserted into the machine. a sheet of paper is directly caught by transport belt of the engine unit after the sheet of paper has reached to the engine unit.



The paper feed roller [A] drives the top sheet of paper from the paper tray or by-pass tray to the copier. The friction pad [B] allows only one sheet to feed at a time. The friction pad applies pressure to the feed roller with a spring [C].

The friction pad pressure cannot be adjusted.



#### Paper Lift Mechanism

When the paper tray [A] is closed, projection [B] on the copier frame pushes slider [C] (on the bottom part of the paper tray) off the bottom plate hook [D]. After the release slide comes off, compressed springs lift the bottom plate.

## **Paper End Detection**



If there is any paper in the paper tray, the paper stack lifts the feeler, the paper end sensor [A] is deactivated.

When the paper tray runs out of paper, the paper end feeler drops into the cutout [B] in the tray bottom plate and the paper end sensor is activated.

When the paper tray is drawn out with no paper in the tray, the shape of the paper end feeler causes it to lift up.





b229d958

Size	SW1	SW2	SW3
A3, 11" x 1 <i>7</i> "	OFF	OFF	OFF
A4 LEF	ON	ON	OFF
A4 SEF,81/2" x 11"	ON	OFF	OFF
A5 LEF, 81/2" x 14"	OFF	ON	ON
81/2" x 13"	ON	OFF	ON
11" x 81/2"	OFF	ON	OFF
* (Asterisk)	OFF	OFF	ON

#### **Paper Tray**

#### Note

• ON: Not pushed, OFF: Pushed

There are three paper size microswitches [A] on the front right plate of the paper tray unit. The switches are actuated by a paper size actuator [B] behind the paper size indicator plate, which is on the front right of the tray.

Each paper size has its own actuator, with a unique combination of notches. To determine which size has been installed, the CPU reads which microswitches the actuator has switched off.

The CPU disables paper feed from a tray if the paper size cannot be detected. If the paper size actuator is broken, or if there is no tray installed, the Add Paper indicator will light.

When the paper size actuator is at the "\*" mark, the paper tray can be set up to accommodate one of a wider range of paper sizes by using User Tools. If the paper size for this position is changed without changing the User Tool setting, a paper jam will result.

## **By-pass Tray**



The by-pass feed paper size switch [A] monitors the paper width. The side fence is connected to the terminal plate gear. When the side fences move to match the paper width, the circular terminal plate rotates over the wiring patterns on the rectangular part of the paper size switch. The patterns for each paper width in the paper size switch are unique.

CN No. (BICU)	11" x 17"	81/2" x 14"	51/2" x 81/2"		/2"
CN127-1	ON/OFF	OFF	OFF	OFF	OFF
CN127-2	OFF	OFF	OFF	ON	OFF
CN127-3 (GND)	OFF	OFF	OFF	OFF	OFF
CN127-4	OFF	ON	OFF	OFF	ON
CN127-5	ON	ON	OFF	OFF	OFF

#### North America

#### Europe/Asia

CN No. (BICU)	A3	A4 SEF	8" x 13"	A5 SEF
CN127-1	ON/OFF	OFF	OFF	OFF
CN127-2	OFF	OFF	OFF	ON/OFF
CN127-3 (GND)	OFF	OFF	OFF	OFF
CN127-4	OFF	ON	ON	OFF

CN No. (BICU)	A3	A4 SEF	8" x 13"	A5 SEF
CN127-5	ON	ON	OFF	OFF

## Side Fences



If the tray is full of paper and it is pushed in strongly, the fences may deform or bend. This may cause the paper to skew or the side-to-side registration to be incorrect. To correct this, each side fence has a stopper [A] attached to it. Each side fence can be secured with a screw, for customers who do not want to change the paper size.

#### **Paper Registration**



The drive from the feed motor is transmitted to the registration driven roller [A] and the registration drive roller [B] through the registration motor [C].

The first registration sensor [D] is used for correcting paper skew and for detecting paper misfeeds.

The cleaning Mylar [E] contacts the registration driven roller [A]. It removes paper dust from the registration rollers so that this dust will not transfer into the development unit through the drum-cleaning unit.

The amount of paper buckle at the registration rollers to correct skew can be adjusted with SP1-003.

If jams frequently occur after registration, SP1-903 can be used to activate the relay clutch so that the relay roller assists the registration rollers in feeding the paper along. When feeding from the by-pass tray, the by-pass feed clutch is activated, turning the by-pass feed roller. This feature may be needed when feeding thick paper, and cannot be used for the first paper feed tray.

# Paper Exit

Overview



b229d511

1: Exit Transport Roller1 to 3	5: Exit Transport Roller 4
2: Engine Exit Sensor	6: Paper Exit Sensor
3: Junction Gate Sensor	7: Paper Exit Roller
4: Junction Gate	

6

Paper Exit

#### **Sensors and Switch**



b229d110

- [A]: Paper Exit Sensor
- [B]: One-sheet By-pass Output Tray Switch
- [C]: Engine Exit Sensor
- [D]: Junction Gate Sensor

The paper exit sensor [A] detects the paper jam.

The engine exit sensor [C] activates the exit motor and the junction gate solenoid if the duplex mode is selected. It also detects the paper jam.

The junction gate sensor [D] activates the duplex transport motor and detects the paper jam.

The One-sheet By-pass Output Tray Switch [B] detects if the output tray is open or not. If this tray is not open, the one-sheet by-pass shutter cannot open.

#### Paper Exit Path

#### **Standard Output Tray**

The paper exit motor starts to drive the exit transport rollers [B] and paper exit roller [C] after the engine exit sensor [A] has detected a sheet of paper. The paper is fed through the exit transport rollers and paper exit roller. Then the paper exit motor stops rotating after the paper exit sensor [D] has detected no paper.



#### **External Output Tray**

6

The junction gate [A] for the one-sheet by-pass tray opens after a customer has decided paper type. A sheet of paper is fed through exit transport rollers and to the external output tray [B]. The junction gate sensor [C] still detects a sheet of paper until the paper fed to the external output tray is removed. While this sensor detects a sheet of paper, the shutter of the one-sheet by-pass tray is closed. So, a next job using the one-sheet by-pass printing cannot be allowed.



## Duplex

The junction gate [A] for the duplex unit opens when a sheet of paper is transported for 150 mm after the engine exit sensor has detected no paper.

The paper is fed through the exit transport rollers and to the duplex transport rollers.

The duplex transport motor starts to drive the duplex transport rollers when a sheet of paper is transported for 150 mm after the junction gate sensor [B] has detected the paper.

The junction gate [A] is closed when a sheet of paper is transported for 50 mm after the junction gate sensor [B] has detected no paper.







The exiting paper stops temporarily [A] to get enough time to be dried when much ink is used for a sheet of paper. The average consumed ink amount (ml/cm2) for each page is calculated at completing the printing. And also the copier calculates the average consumed ink amount in the 50 mm area from the trailing edge of paper. This is countermeasure in case that much amount of ink is used only in the trailing edge area. The copier uses the higher value among both as the coefficient for the paper stop function. The paper stop time is defined depending on the combination of the coefficient and table. For details, refer to the end of this column. The next sheet of paper stays at the registration roller [B].

#### Table for the Paper Stop Time

#### Paper Curl 30 mm or less

This machine has the matrix of the paper stop time for each area [A], [B], [C]. The paper stop time is adjusted for each condition above [A], [B], [C].

Humidity	Tem	peratu	re (°C	)			
(%)	5	10	15	20	25	30	35
5							
10		AJ					
15							
20							
25							
30							
35			<u>     [</u>	B]			
40							
45							
50							
55							
60							
65							
70						_ [C	]
75						-	
80							
85							
						b229	9d513

This machine has the matrix of the paper stop time for each area [A], [B], [C]. The paper stop time is adjusted for each condition above [A], [B], [C].

Area [A]			
Coverage	Stop Time		
70% or more	10 seconds		
50% < 70%	7 seconds		

20% < 50%	2 seconds				
Area [B]					
Coverage	Stop Time				
50% or more	7 seconds				
20% < 50%	2 seconds				
Arec	a [C]				
Coverage	Stop Time				
50% or more	2 seconds				
20% < 50%	No stop				

## **Energy Saver Modes of Basic Machines**

This section illustrates the energy saver modes of the basic machine (the machine without the optional controller).

#### Overview



The machine has an energy-saver mode: the Sleep Mode. The table lists the status of several components.

	Operation panel	Engine	Exhaust fan
Operating Mode*	On	On	On

	Operation panel	Engine	Exhaust fan	
Sleep Mode	Off	Off**	Off	

\*The "Operating Mode" here refers to all the modes (and status) other than the Sleep Mode. Actual power consumption (during the Operating Mode) depends on job status and environmental conditions.

\*\*The SRAM is alive and backs up the engine controller.

#### Timers

The engine controller references the Auto Off Timer to start the Sleep Mode. The user can set these timers (U > System Settings > Timer Settings).

The Auto Off Timer starts at the same time (t0) when the machine ends all jobs or when the user ends all manual operations.

#### Recovery

Any of the following operations brings the machine back to the Operating Mode:

- The power switch is pressed.
- Originals are set on the document feeder.
- The platen cover (or document feeder) is opened.

# **General Specifications**

Configuration:	Desktop			
Copy Process:	Gel - Jet Technology			
Originals:	Sheet/Book/Object			
Original Size:	Maximum A3, DLT (11" x 17")			
	Maximum: A3, /11" x 17" Minimum: A5 LEF/8 <sup>1</sup> / <sub>2</sub> " x 5 <sup>1</sup> / <sub>2</sub> " (Paper tray) A6 SEF/5 <sup>1</sup> / <sub>2</sub> " x 8 <sup>1</sup> / <sub>2</sub> " (Bypass) Custom sizes in the bypass tray: Width: 90 – 305 mm (3.55" – 12.2") Length: 148 – 600 mm (5.83" – 23.62")			
Copy Paper Size:	✓Note			
	<ul> <li>Physically, the by-pass tray can handle the following size (but this size is not recognized by the application software):</li> <li>Width: 305 mm</li> </ul>			
	• Length: 1,260 mm			
Copy Paper Weight:	Paper Tray: 60 to 105 g/m <sup>2</sup> , 16lb to 28 lb By-pass Tray: 60 to 162 g/m <sup>2</sup> , 16lb to 43 lb One-sheet By-pass Tray: 60 to 264g/m <sup>2</sup> 16lb to 70lb Bank: 60 to 105g/m <sup>2</sup> 16lb to 28lb Duplex: 60 to 105 g/m <sup>2</sup> , 16 to 28 lb			
Reproduction Ratios:	4 enlargement and 5 reduction			
	A4/A3 Version	LT/DLT Version		
	400%	400%		
Enlanderent	200%	155%		
Enlargement	141%	129%		
	122%	121%		
Full Size	100%	100%		
Reduction	93% 93%			

	82%	78%			
	71%	65%			
	50%	50%			
	25%	25%			
Zoom:	25% to 400%, in 1% steps				
Power Source:	North America/Formosa: 110V – 120 V, 60 Hz, 12 A Europe, Asia, China: 220 – 240 V, 50/60 Hz, 7 A				

Power Comsumption						
North America/ Formosa	Main Unit only	Complete System*				
Maximum	110 W	200 W				
Operating	90 W	135 W				
Stand-by	38 W	47 W				
Sleep mode	3.0 W	7.5 W				
Europe/Asia/China	Main Unit only	Complete System*				
Maximum	110 W	250 W				
Operating	92 W	145 W				
Stand-by	41 W	50 W				
Sleep mode	3.5 W	8.2 W				

\*Complete System: The complete system consists of the Main unit, A(R)DF, Fax Unit, USB Host, IEEE1284, Function Upgrade Option, Copy Data Security Unit, Duplex unit and Paper Tray unit.

Noise Emission (Sound Power Level)						
Standby (Mainframe/Full system) Not above 40 dB(A)						
Onersting (Mainframe only)	B/W	Color				
Operating (Maintrame only).	Not above 62.6dB(A)	Not above 66.6dB(A)				
On continue (Evill Scretcom)	B/W	Color				
Operaling (rui system):	Not above 60.7dB(A)	Not above 64.7dB(A)				

The above measurements were made in accordance with ISO 7779. Measurements were taken from the normal position of the operator.

Dimensions (W x D x H):	550 x 729 x 485 mm (22" x 29.1" x 19.4") Measurement Conditions: With bypass feed table closed Without the A(R)DF
Weight:	52 kg or less (115lb.) (Excluding A(R)DF, platen cover, toner, and developer)
Copying Speed in Multicopy Mode (copies/minute):	5 – 24 cpm (B/W mode, A4/LT LEF) 3 – 6 cpm (FC mode, A4/LT LEF)
Warm-up Time:	From Power-on; Less than 20 seconds (at 20°C [68°F]) From Stand-by; Less than 5.5 seconds (at 20°C [68°F])
	Not more than 9 seconds (B/W mode) Not more than 20 seconds (Color mode) Maggurament Conditions
First Copy Time:	From the ready state, with the polygonal mirror motor operating.
	Not APS mode 100%size Paper feed from the upper tray
Copy Number Input:	Numeric keypad, 1 to 99 (increment, decrement)
Manual Image Density:	5 steps
Automatic Reset:	Default is 60 seconds. Can be set from 60 to 999 seconds with user tools.
Automatic Shut-off:	Default is 1 minute. Can be set from 1 to 240 minutes with user tools.
Copy Paper Capacity:	Paper Tray: 250 sheets Optional Paper Tray Unit: 500 sheets x 1, or 500 sheets x 2 By-pass Tray: 100 sheets (sheets up to 432 mm [17"]), 40 postcards, 10 envelopes One-sheet By-pass Tray: 1 sheet

	Copy weight: 80 g/m <sup>2</sup> (20lb.)
	Platen cover
	Auto document feeder
	Auto-reverse document feeder
	Paper tray unit (1 tray)
	Paper tray unit (2 trays)
	Tray heater
	Optics anti-condensation heater
	Fax unit
	Handset
Optional Equipment:	IEEE 1284
	Wireless LAN (IEEE802.11b)
	Bluetooth
	PostScript 3
	USB Host
	PictBridge
	Data Overwrite Security Unit
	Copy Data Security Unit
	JVM SD Card
	NRS Cumin-M
Copy-Tray Capacity	250 sheets
Memory:	384 MB (On-board-128 MB + RAM DIMM- 256 MB)

# **Supported Paper Sizes**

## **Original Size Detection**

### North America, Europe, Asia, Formosa

Papar		North A	North America		Europe/Asia/Formosa	
Paper	Size (W x L)	Platen	ADF	Platen	ADF	
A3 SEF	297 x 420 mm	0	0	Х	Х	
B4 SEF	257 x 364 mm	0	0	Х	Х	
A4 SEF	210 x 297 mm	A4/LT	A4/LT	Х	Х	
A4 LEF	297 x 210 mm	A4/LT	A4/LT	Х	Х	
B5 SEF	182 x 257 mm	0	0	0	Х	
B5 LEF	257 x 182 mm	0	0	Х	Х	
A5 SEF	148 x 210 mm	0	0	0	Х	
A5 LEF	210 x 148 mm	0	0	0	Х	
B6 SEF	128 x 182 mm	0	0	0	0	
B6 LEF	182 x 128 mm	0	0	0	0	
8K SEF	267 x 390 mm	0	0	0	0	
16K SEF	195 x 267 mm	0	0	0	0	
16K LEF	267 x 195 mm	0	0	0	0	
DLT SEF	11.0" x 17.0"	Х	Х	0	0	
SEF	11.0" x 15.0"	0	0	0	0	
LG SEF	8.5" x 14.0"	Х	х	0	0	
LT SEF	8.5" x 11.0"	Х	Х	A4/LT	A4/LT	
LT LEF	11.0" x 8.5"	Х	х	A4/LT	A4/LT	
HLT SEF	5.5" x 8.5"	0	Х	0	0	

HLT LEF	8.5" x 5.5"	S	Х	0	0
F/GL (F4) SEF	8.0" x 13.0"	F	0	F	F
Foolscap SEF	8.5" x 13.0"	F	0	F	F
Folio SEF	8.25" x 13.0"	F	0	F	F
USB4 SEF	10.0" x 14.0"	0	0	0	0
Eng Quarto SEF	8.0" x 10.0"	0	0	0	0
Eng Quarto LEF	10.0" x 8.0"	0	0	0	0

#### Symbol:

- X: Detected
- O: Not detected
- F: Detected as F (8.5" x 13.0")
- S: Detected as specified
- A4/LT: Detected as A4 or LT as specified
- Note
  - When the settings of SP4-305-001 is "1: A4/LT," the settings of SP4-303 is invalidated (A5 LEF is not detected).

## Paper Feed and Exit

#### Main Frame, Duplex, Optional Paper Tray

Paper	Size (W x L)	Main Frame Tray		Duralaus	Optional
		NA	EU/ASIA	Duplex	Paper Tray
A3 SEF	297 x 420 mm	м	0	0	0
A3 LEF	420 x 297 mm	Х	Х	Х	Х
B4 SEF	257 x 364 mm	м	М	0	М
B4 LEF	364 x 257 mm	Х	Х	Х	Х
A4 SEF	210 x 297 mm	м	0	0	0

Danaa	Size (W x L)	Main Frame Tray		Durchas	Optional
raper		NA	EU/ASIA	Duplex	Paper Tray
A4 LEF	297 x 210 mm	0	0	0	0
B5 SEF	182 x 257 mm	м	м	0	м
B5 LEF	257 x 182 mm	м	м	0	м
A5 SEF	148 x 210 mm	Х	Х	0	М
A5 LEF	210 x 148 mm	м	0	0	Х
B6 SEF	128 x 182 mm	Х	Х	Х	Х
B6 LEF	182 x 128 mm	Х	Х	Х	Х
A6 SEF	105 x 148 mm	Х	Х	Х	Х
A6 LEF	148 x 105 mm	Х	Х	Х	Х
Post SEF	100 x 148	Х	Х	Х	Х
Post LEF	148 x 100	Х	Х	Х	Х
R-Post SEF	200 x 148	Х	Х	Х	Х
R-Post LEF	148 x 200	Х	Х	Х	Х
DLT SEF	11" x 17"	0	м	0	0
DLT LEF	17" x 11"	Х	Х	Х	Х
LG SEF	8 <sup>1</sup> / <sub>2</sub> " x 14"	0	м	0	0
LG LEF	14" x 8 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Gov. LG SEF	8 <sup>1</sup> / <sub>4</sub> " x 14"	м	м	0	м
Gov. LG LEF	14" x 8 <sup>1</sup> / <sub>4</sub> "	Х	Х	Х	Х
LT SEF	8 <sup>1</sup> / <sub>2</sub> " x 11"	0	м	0	0
LT LEF	11" x 8 <sup>1</sup> / <sub>2</sub> "	0	0	0	0
HLT SEF	5 <sup>1</sup> / <sub>2</sub> " x 8 <sup>1</sup> / <sub>2</sub> ""	Х	Х	Х	м
HLT LEF	8 <sup>1</sup> / <sub>2</sub> " x 5 <sup>1</sup> / <sub>2</sub> "	м	м	Х	Х
Executive SEF	7 <sup>1</sup> / <sub>2</sub> " x 10 <sup>1</sup> / <sub>2</sub> "	м	м	0	Х

Damag	S:== (\\\/  \	Main Frame Tray		Dunlau	Optional
raper	Size (vv x L)	NA	eu/asia	Doblex	Paper Tray
Executive LEF	$10^{1}/_{2}$ " x 7 <sup>1</sup> / <sub>4</sub> "	м	м	0	Х
F SEF	8" x 13"	М	м	0	м
F LEF	13" x 8"	Х	Х	Х	С
Foolscap SEF	8 <sup>1</sup> / <sub>2</sub> " x 13"	0	0	0	м
Foolscap LEF	13" x 8 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Folio SEF	8 <sup>1</sup> / <sub>4</sub> " x 13"	м	м	0	м
Folio LEF	13" x 8 <sup>1</sup> / <sub>4</sub> "	Х	Х	Х	Х
8K SEF	267 x 390 mm	м	м	0	м
8K LEF	390 x 267 mm	Х	Х	Х	Х
16K SEF	195 x 267 mm	М	м	0	м
16K LEF	267 x 195 mm	м	м	o	м
C5 Env SEF	162 x 229 mm	Х	Х	Х	Х
C6 Env SEF	114 x 162 mm	Х	Х	Х	Х
DL Env SEF	110 x 220 mm	Х	Х	Х	Х
Com 10 SEF	4 <sup>1</sup> / <sub>8</sub> " x 9 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Monarch SEF	3 <sup>7</sup> / <sub>8</sub> " x 7 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Custom		K	K	К	К

#### Symbol:

O: Detected (Main frame tray)/Processed (Duplex)

X: Not detected (Main frame tray)/Not processed (Duplex)

M: Selected manually

K: Specified from the key pad

**Note** 

- Custom:
- W: 182 to 297 mm, L: 148 to 432 mm for Main Frame

- W: 148 to 297 mm, L: 182 to 432 mm for Optional Paper Tray
- W: 90 to 305 mm, L: 148 to 600 mm for By-pass/ One-sheet By-pass Tray

### By-pass Tray, One-sheet By-pass Tray

Paper	Size (W x L)	By-pass		One-sheet By-pass Tray	
		NA	EU/ASIA	NA	EU/ASIA
A3 SEF	297 x 420 mm	м	0	м	м
A3 LEF	420 x 297 mm	Х	Х	Х	Х
B4 SEF	257 x 364 mm	м	М	м	м
B4 LEF	364 x 257 mm	Х	Х	Х	Х
A4 SEF	210 x 297 mm	м	0	м	м
A4 LEF	297 x 210 mm	м	М	м	м
B5 SEF	182 x 257 mm	м	М	м	м
B5 LEF	257 x 182 mm	м	М	м	м
A5 SEF	148 x 210 mm	м	0	м	м
A5 LEF	210 x 148 mm	м	М	м	м
B6 SEF	128 x 182 mm	м	М	м	м
B6 LEF	182 x 128 mm	Х	Х	Х	Х
A6 SEF	105 x 148 mm	К	К	К	К
A6 LEF	148 x 105 mm	Х	Х	Х	Х
Post SEF	100 x 148	Х	Х	Х	Х
Post LEF	148 x 100	К	К	К	К
R-Post SEF	200 x 148	К	K	К	К
R-Post LEF	148 x 200	К	К	К	К
DLT SEF	11" x 17"	0	м	м	м
DLT LEF	17" x 11"	Х	Х	Х	Х

Paper	Size (W x L)	By-pass		One-sheet By-pass Tray	
		NA	EU/ASIA	NA	EU/ASIA
LG SEF	8 <sup>1</sup> / <sub>2</sub> " x 14"	м	М	м	м
LG LEF	14" x 8 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Gov. LG SEF	8 <sup>1</sup> / <sub>4</sub> " x 14"	м	М	м	м
Gov. LG LEF	14" x 8 <sup>1</sup> / <sub>4</sub> "	Х	Х	Х	Х
LT SEF	8 <sup>1</sup> / <sub>2</sub> "x11"	0	м	м	м
LT LEF	11" x 8 <sup>1</sup> / <sub>2</sub> "	м	м	м	м
HLT SEF	5 <sup>1</sup> / <sub>2</sub> " x 8 <sup>1</sup> / <sub>2</sub> "	0	м	м	м
HLT LEF	8 <sup>1</sup> / <sub>2</sub> " x 5 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Executive SEF	7 <sup>1</sup> / <sub>2</sub> " x 10 <sup>1</sup> / <sub>2</sub> "	м	м	м	М
Executive LEF	$10^{1}/_{2}$ " x 7 <sup>1</sup> / <sub>4</sub> "	м	м	м	М
F SEF	8" x 13"	м	0	м	М
F LEF	13" x 8"	Х	Х	Х	Х
Foolscap SEF	8 <sup>1</sup> / <sub>2</sub> " x 13"	м	м	м	М
Foolscap LEF	13" x 8 <sup>1</sup> / <sub>2</sub> "	Х	Х	Х	Х
Folio SEF	8 <sup>1</sup> / <sub>4</sub> " x 13"	м	м	м	М
Folio LEF	13" x 8 <sup>1</sup> / <sub>4</sub> "	Х	Х	Х	Х
8K SEF	267 x 390 mm	м	м	м	М
8K LEF	390 x 267 mm	Х	Х	Х	Х
16K SEF	195 x 267 mm	м	М	м	М
16K LEF	267 x 195 mm	м	М	м	М
C5 Env SEF	162 x 229 mm	м	М	м	М
C6 Env SEF	114 x 162 mm	М	М	м	М
DL Env SEF	110 x 220 mm	м	М	м	М
Com 10 SEF	4 <sup>1</sup> / <sub>8</sub> " x 9 <sup>1</sup> / <sub>2</sub> "	м	М	м	м

Paper	Size (W x L)	By-pass		One-sheet By-pass Tray	
		NA	EU/ASIA	NA	EU/ASIA
Monarch SEF	$3^{7}/_{8}$ " x 7 <sup>1</sup> / <sub>2</sub> "	м	М	м	м
Custom		К	K	К	К

#### Symbol:

O: Detected (Opt. paper tray and By-pass)/Processed (One-bin tray)

X: Not detected (Opt. paper tray and By-pass)/Not processed (One-bin tray)

M: Selected manually

K: Specified from the key pad

**Vote** 

- Custom:
- W: 182 to 297 mm, L: 148 to 432 mm for Main Frame
- W: 148 to 297 mm, L: 182 to 432 mm for Optional Paper Tray
- W: 90 to 305 mm, L: 148 to 600 mm for By-pass/ One-sheet By-pass Tray
## **Machine Configuration**



Unit/Component		Machine Code	Diagram
	Copier (1-tray non-duplex model)	D045	[B]
	Platen cover (optional)	B406	[E]
	ADF (optional)	B813	[A]
	ARDF (optional)	B814	[A]
Copier	Paper tray unit–1 tray (optional)	B385	[F]
	Paper tray unit–2 trays (optional)	B384	[D]
	Duplex Unit	B806	[C]
	Tray heater (optional)	_	_
	Optics anti-condensation heater (optional)	_	_
	Fax controller (optional)	B267	
Fax	Handset (optional)	B433	
	Fax stamp ink	H903	



	Unit/Component	Machine Code	Diagram
	PostScript 3 (optional)	D402	5
	Function Upgrade Option	D400	-
Drinter / common	Data Overwrite Security Unit	B735	5
Printer/scanner	Copy Data Security Unit	B829	8
	VM Card	G874	6
	Pict Bridge	D402	5
	IEEE 1284	B679	2
Nistanda	Wireless LAN (IEEE802.11b)	G813	3
INEIWOFK	Bluetooth	B826	4
	USB Host	B825	7

# **Optional Equipment**

#### ARDF

r	
	Standard sizes
	Single-sided mode: A3 to A5, 11" x 17" to $5^1/2$ " x $8^1/2$ "
	Double-sided mode: A3 to A5, 11" x 17" to $5^1/2$ " x $8^1/2$ "
Original Size:	Non-standard sizes (Single-sided mode only)
original size.	Max. width 297 mm
	Min. width 105 mm
	Max. length 1260 mm
	Min. length 128 mm
	Single-sided mode: 40 – 128 g/m <sup>2</sup> , 10 – 34 lb.
Original Weight:	Double-sided mode: 52 – 105 g/m <sup>2</sup> , 17 – 28 lb.
Table Capacity:	50 sheets (80 g/m <sup>2</sup> , 70 kg)
Original Standard Position:	Center
Separation:	FRR
Original Transport:	Roller transport
Original Feed Order:	From the top original
Reproduction Range:	50 to 200% (Sub scan direction only)
Power Source:	24 and 5 Vdc from the copier
Power Consumption:	Less than 50 W
Dimensions (W x D x H):	550 x 470 x 130 mm
Weight:	10 kg

#### ADF

Original Size	Standard sizes (Single-sided mode only):
Oligiliai Size.	A3 to A5, 11" x 17" to $5^{1}/_{2}$ " x $8^{1}/_{2}$ "

	Non-standard sizes (Single-sided mode only):
	Max. width 297 mm
	Min. width 105 mm
	Max. length 1,260 mm
	Min. length 128 mm
Original Weight:	52 – 105 g/m² (14 – 28lb.)
Table Capacity:	30 sheets (80g/m <sup>2</sup> , 20lb.)
Original Standard Position:	Center
Separation:	FRR
Original Transport:	Roller transport
Original Feed Order:	From the top original
Reproduction Range:	50 – 200%
Power Source:	24 and 5 Vdc (from the main frame)
Power Consumption:	Less than 25 W
Dimensions (W x D x H):	550 mm x 470 mm x 90 mm
Weight:	7 kg (15lb) or less

#### One-Tray Paper Tray Unit

Paper Size:	A5 to A3 $5^{1}/_{2}$ " x 8 <sup>1</sup> / <sub>2</sub> " SEF to 11" x 17"
Paper Weight:	60 – 105 g/m², 16 – 28 lb.
Tray Capacity:	500 sheets (80 g/m <sup>2</sup> , 20 lb. ) x 1 tray
Paper Feed System:	Feed roller and friction pad
Paper Height Detection:	4 steps (100%, 70%, 30%, Near end)
	24 Vdc and 5Vdc (from the copier/printer):
Power Source:	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: 20 W (copying/printing), 23 W (optional tray heater on) Average: 13 W (Copying/printing), 15 W (Optional Tray Heater On)
Weight:	17 kg (37.5lb.) or less
Size (W x D x H):	550 mm x 520 mm x 134 mm

### Two-Tray Paper Tray Unit

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/m <sup>2</sup> , 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:	<ul> <li>24 Vdc, 5 Vdc (from the copier/printer)</li> <li>120 Vac: 120 V version, from the copier/printer when the optional tray heater is installed</li> <li>220 – 240 Vac: 230 V version, from the copier/printer when the optional tray heater is installed</li> </ul>
Power Consumption:	Max: 30 W (Copying/printing), 23 W (Optional Tray Heater On) Average: 17 W (Copying/printing), 15 W (Optional Tray Heater On)
Weight:	25 kg (55lb.)
Size (W x D x H):	550 mm x 520 mm x 271 mm

### Duplex Unit

Conv Banor Sizer	Maximum: A3/11" x 17"
Copy ruper size.	Minimum: $A5/5^{1}/_{2}$ " x $8^{1}/_{2}$ "

Copy Paper Weight:	64 – 105 g/m² (20 – 28 lb.)
Power Consumption:	30 W
Weight:	11 kg (24.2 lb.)
Size (W x D x H):	550 mm x 620 mm x 112 mm

MEMO

MEMO

MEMO