Model K-C3
Printer/Scanner Unit
Machine Code: B867
SERVICE MANUAL

Aug. 31st, 2006
Subject to change

Safety Notices

⚠Important Safety Notices

Prevention of Physical Injury

1. Before disassembling or assembling parts of the copier and peripherals, make sure that the power cord is unplugged.
2. The wall outlet should be near the copier and easily accessible.
3. Note that some components of the copier and the paper tray unit are supplied with electrical voltage even if the main power switch is turned off.
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 because the starts making copies as soon as the warm-up period is completed.
5. The inside and the metal parts of the fusing unit become extremely hot while the copier is operating. Be careful to avoid touching those components with your bare hands.

Health Safety Conditions

Toner and developer are non-toxic, but if you get either of them in your eyes by accident, it may cause temporary eye discomfort. Try to remove with eye drops or flush with water as first aid. If unsuccessful, get medical attention.

Observance of Electrical Safety Standards

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

Safety and Ecological Notes for Disposal

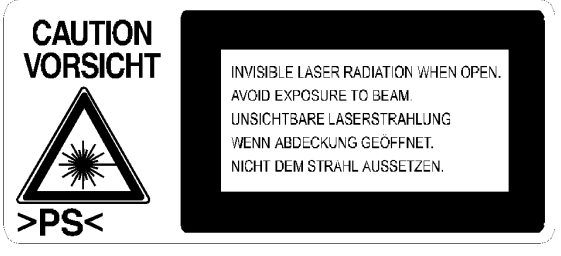
1. Do not incinerate toner bottles or used toner. Toner dust may ignite suddenly when exposed to an open flame.
2. Dispose of used toner, developer, and organic photoconductors in accordance with local regulations. (These are non-toxic supplies.)
3. Dispose of replaced parts in accordance with local regulations.

Laser Safety

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

⚠WARNING

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

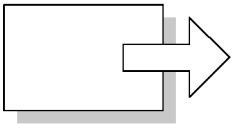
⚠WARNING FOR LASER UNIT
WARNING: Turn off the main switch before attempting any of the procedures in the Laser Unit section. Laser beams can seriously damage your eyes. CAUTION MARKING: 

Symbols and Abbreviations

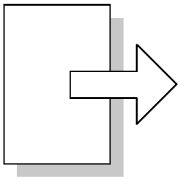
Conventions Used in this Manual

This manual uses several symbols.

Symbol	What it means
	Refer to section number
	Screw
	Connector
	E-ring
	Clip ring
	Clamp



Short Edge Feed (SEF)



Long Edge Feed (LEF)

Cautions, Notes, etc.

The following headings provide special information:

⚠WARNING

- Failure to obey warning information could result in serious injury or death.

⚠CAUTION

- Obey these guidelines to ensure safe operation and prevent minor injuries.

Important

- **Obey these guidelines to avoid problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine.**
- **Always obey these guidelines to avoid serious problems such as misfeeds, damage to originals, loss of valuable data and to prevent damage to the machine. bold is added for emphasis.**

Note

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

TABLE OF CONTENTS

5. Detailed Section Descriptions

6. Specifications

1. Installation

Controller Box and Printer/Scanner

When you install the printer/scanner option, the GW controller box must also be installed. This procedure shows the installation procedure for the GW controller box and printer/scanner option.

Accessory Check

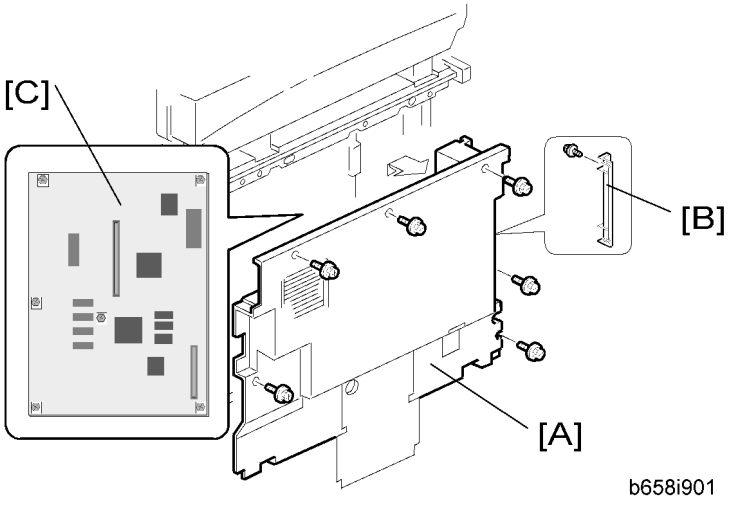
	No.	Description	Q'ty
Controller Box	1	Installation procedure	1
	2	Controller box	1
	3	Operation panel	1
	4	Expansion decal	1
	5	Screw M3 x 8	1
	6	Tapping screw M3 x 6	6
	7	Ground cable	1
	8	Clamp	1
Printer Scanner	1	Installation procedure	1
	2	Dummy cover–fax	1
	3	Dummy key top	1
	4	Printer/Scanner key panel	2
	5	SD card	1
	6	RAM DIMM	1
	7	Ferrite core	1
	8	Operating instructions	1
	9	FCC label	1

Installing Expansion Component

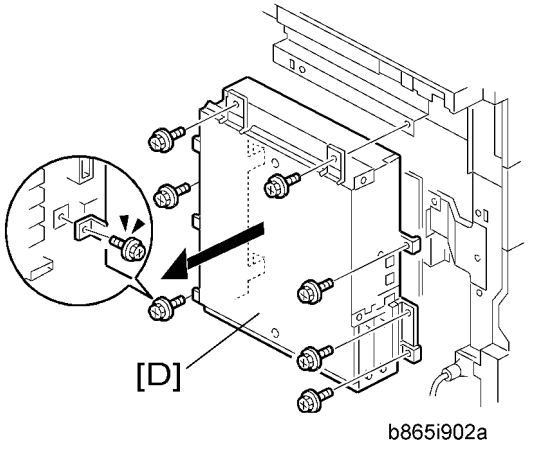
⚠CAUTION

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

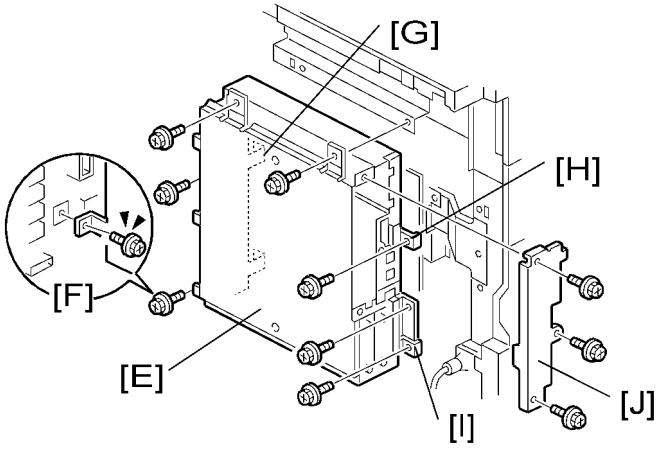
Step 1–Controller Box



1. Remove the rear cover [A] (🔩 x 6).
2. Remove the slot cover [B] (🔩 x 1).
3. Remove one screw [C] from the BICU.



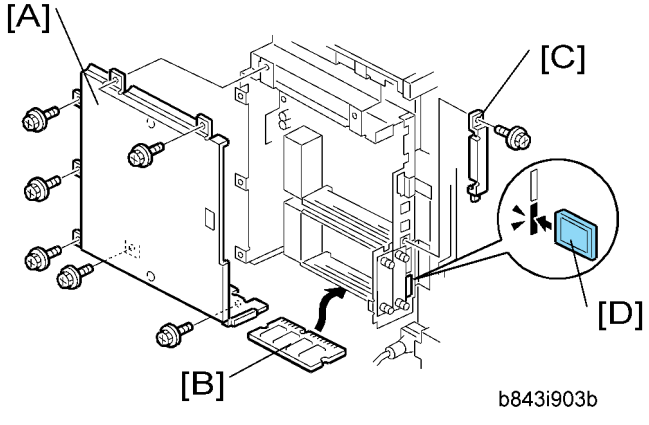
4. **For B268/B269 model only,** remove the GDI controller box [D] (🔩 x 7).



b843i902a

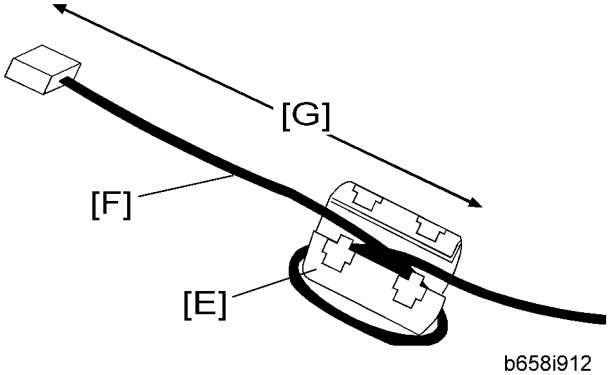
5. Connect the controller box [E] to the BICU. Make sure that the BICU is not damaged [F] and that the three openings [G][H][I] hold the controller box.
6. Fasten the screws (x 7 [including the screw [C]).
7. Remove the FCU cover [J] (x 3).

Step 2–Printer/Scanner



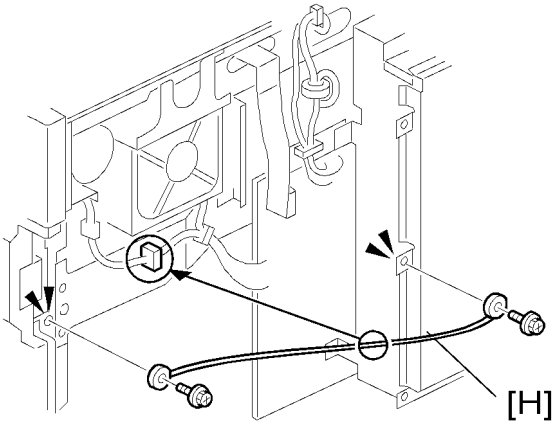
b843i903b

1. Remove the controller-box cover [A] (x 7).
2. Install the RAM DIMM [B].
3. Remove the SD-card cover [C] (x 1).
4. Install the SD card [D] in the lowest slot.
5. Install the SD-card cover.



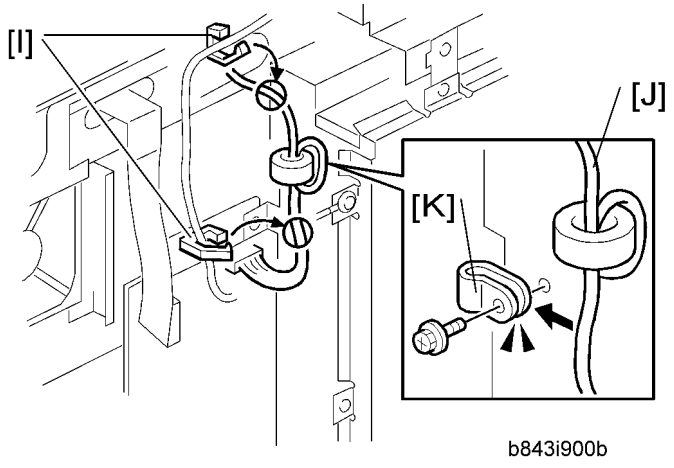
b658i912

6. Attach the ferrite core [E] to the network cable [F]. The end of the ferrite core must be about 8 cm (3.2") from the end of the cable [G].



b843i504

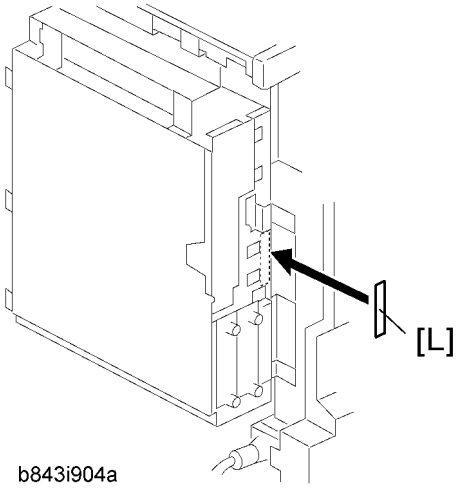
7. Install the ground cable [H] as shown, and then clamp the cable (x 2, x 1).



b843i900b

8. Release the clamps [I], and then bind the harness [J] with the clamp [K].

9. Attach the clamp [K] to the controller box.
10. If you do not install the FCU, reinstall the FCU bracket (which has been removed in Step 1), to the controller box.



11. Attach the FCC label [L] at the right-hand side of the USB connector on the controller box (for the USA model only).

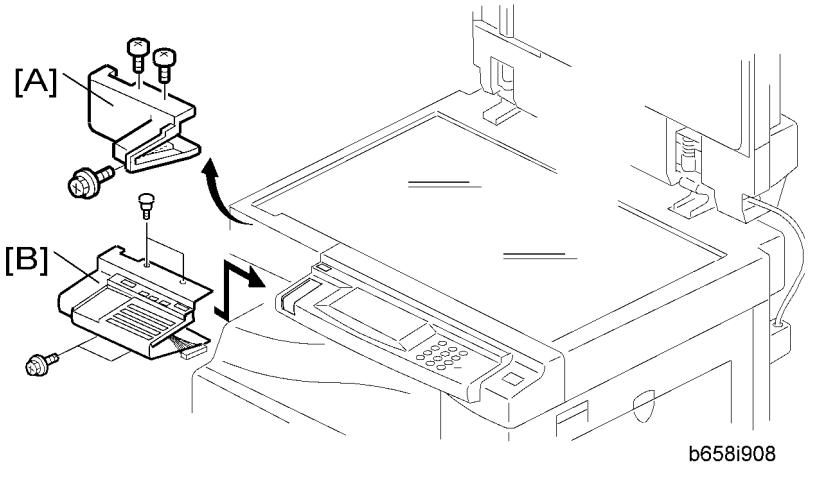
Step 4–Reassembling

1. Reassemble the controller box.
2. Install the rear cover.

Installing Panels and Keys

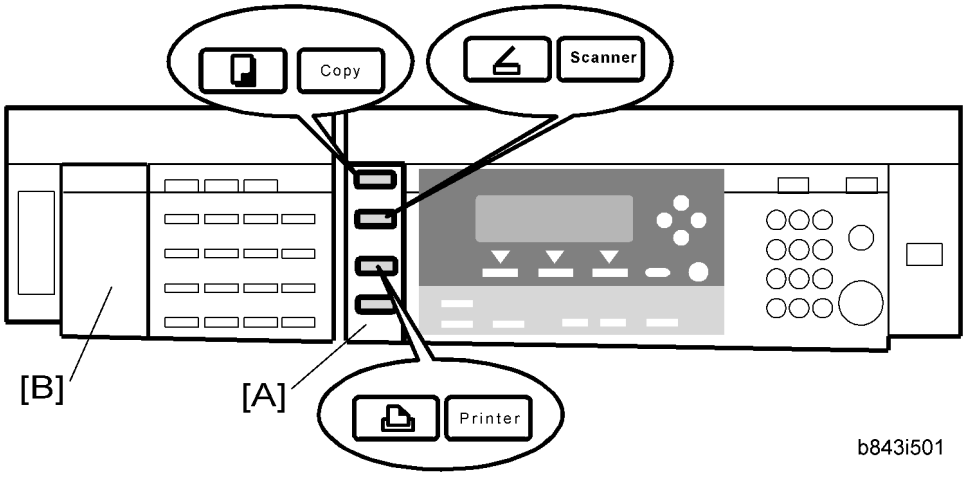
1

Step 5–Panel



1. Remove the front upper left cover [A] (x 3).
2. Install the optional operational panel [B] (x 1, x 4 [including the three screws removed in step 1]).

Step 6–Printer/Scanner Keys



1. Remove the dummy cover (from the basic operation panel) and install the printer/scanner key panel [A].
2. Install the dummy fax cover [B].

Settings

Step 9–Printer/Scanner Model Settings

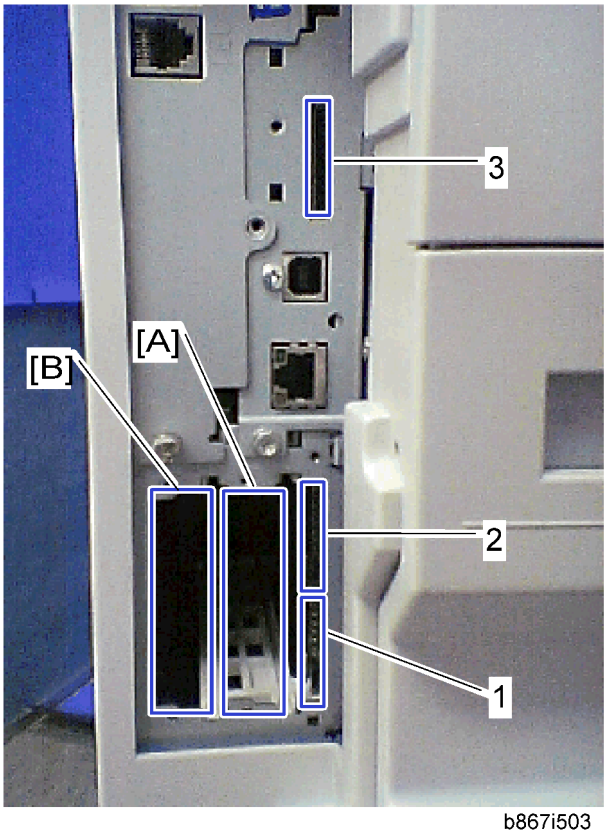
1. Turn the main switch on.
2. Start the SP mode.
3. Select SP5-985-001 (NIC setting) and change the setting value to "1" (ON).
4. Select SP5-985-002 (USB setting) and change the setting value to "1" (ON).
5. Turn the main switch off and on.
6. Start the SP mode.
7. Select SP5-801-001 and initialize the all SP data.
8. Exit the SP mode, and then start the UP mode.
9. Select the "@Remote Service" ("User Tool" > "System Settings > Administrator Tools" > "Extended Security" > @Remote Service") and select "Prohibit".
10. Exit the UP mode, and then start the SP mode.
11. Select SP5-870-003 and execute initialization for @Remote.
12. Select SP5-907-001 and specifies the "Plug & Play".
13. Select SP5-870-001 and execute writing certification for @Remote.
14. Select SP5-302-002 and specify the time zone.
15. Select SP5-307-001, 003, and 004 and specify the daylight-saving time settings.
16. Exit the SP mode.
17. Turn the main switch off and on.
18. Start the UP mode.
19. Specifies the date and time with "Set Date" or "Set Time" (User Tool" > "System Settings" > "Set Date" or "Set Time").

Controller Options

1

Overview

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



b867i503

I/F Card Slot

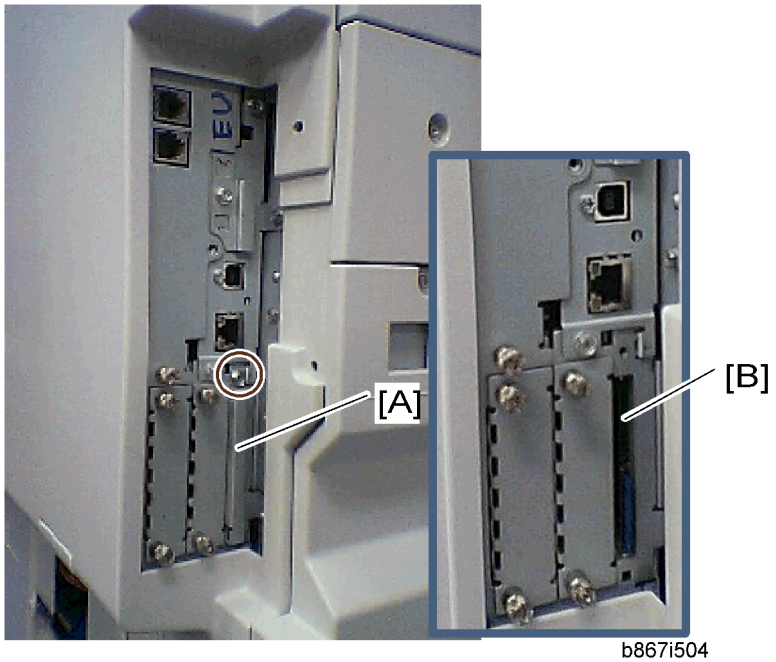
- Slot [A] is used for one of the optional I/F connections: (IEEE1284, IEEE802.11 (Wireless LAN), Bluetooth or Embedded RCG-M).
- Slot [B] is used for the USB Host.

SD Card Slot

- Slot [1] is used for optional printer/scanner application only.
- Slot [2] is used for PostScript3.
- Slot [3] is used for the Java VM Option or service use.

PostScript3 Installation

Installation Procedure



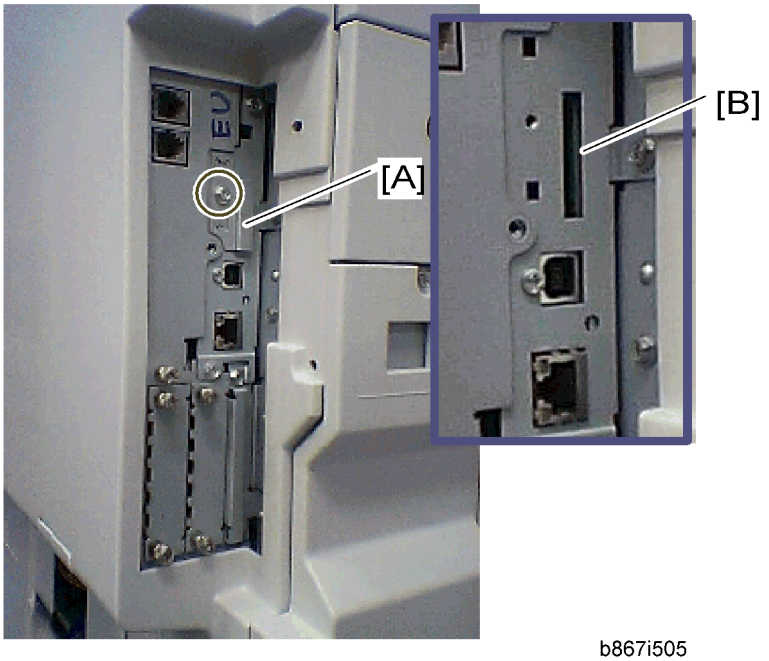
b867i504

1. Remove the SD card slot cover [A] (x 1).
2. Install the PostScript3 SD card into the slot 2 [B].
3. Reinstall the SD card slot cover [A] (x 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.

Java VM Option Installation

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.



b867i505

1. Remove the slot cover [A] from the SD card slot 3 (x 1).
2. Turn the SD-card label face to the rear of the machine. Then push it slowly into slot 3 [B] until you hear a click.
3. Turn on the main power switch.
4. Follow the vendor's installation procedure.
5. After installing, turn off the main power switch
6. Remove the SD card from slot 3.
7. Attach the slot cover [A] (x 1).

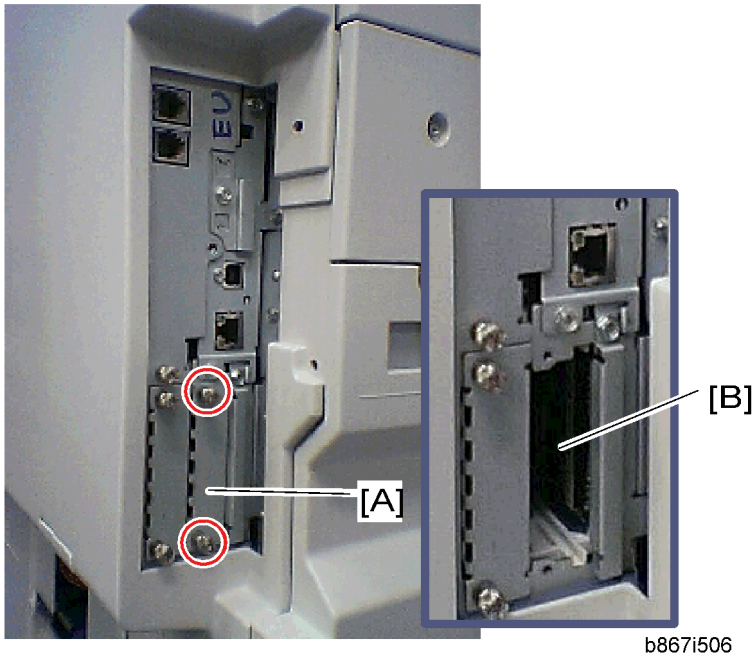
Wireless LAN (IEEE 802.11b) Installation

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 [A] (x 2).**
2. **Install the Wireless adaptor to the slot A [B] (x 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.**

If reception is poor, you may need to move the machine:

- Make sure that the machine is not located near an appliance or any type of equipment that could generate a strong magnetic field.
- Position the machine as close as possible to the access point.

1

SP Mode Settings for IEEE 802.11b Wireless LAN

The following SP commands can be set for IEEE 802.11b

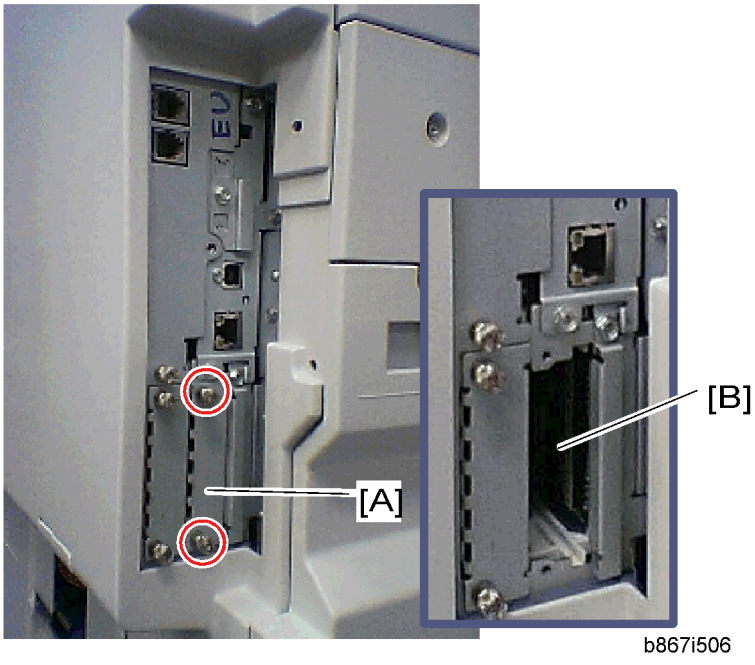
SP No.	Name	Function
5840 004	SSID	Used to confirm the current SSID setting.
5840 006	Channel MAX	Sets the maximum range of the channel settings for the country.
5840 007	Channel MIN	Sets the minimum range of the channel settings allowed for your country.
5840 011	WEP Key Select	Used to select the WEP key (Default: 00).
5840 018	SSID Check	Used to check the SSID.
5840 020	WEP Mode	Used to display the maximum length of the string that can be used for the WEP Key entry.

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 [A] (☞ x 2).
2. Install the IEEE 1284 board in interface slot A [B] (☞ x 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.

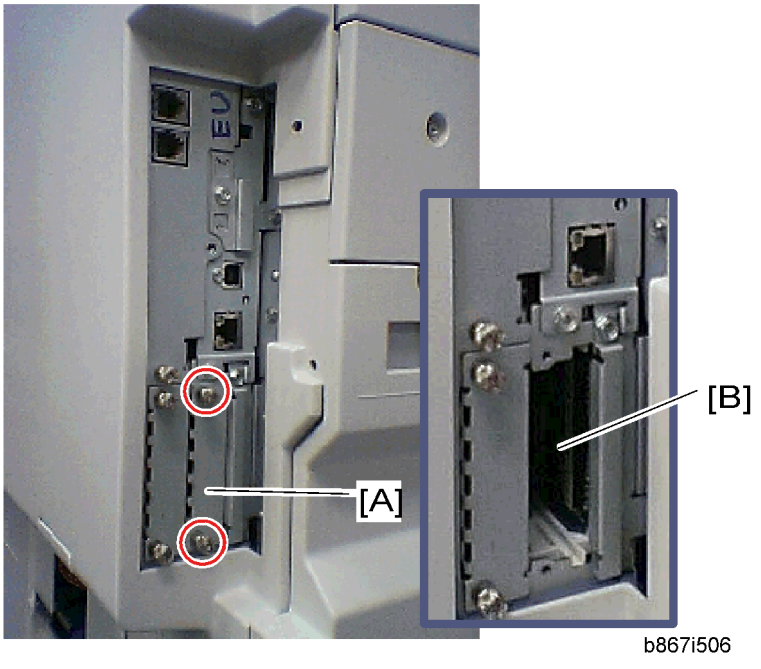
Bluetooth Installation

Component Check

No.	Description	Q'ty
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	1

Installation Procedure



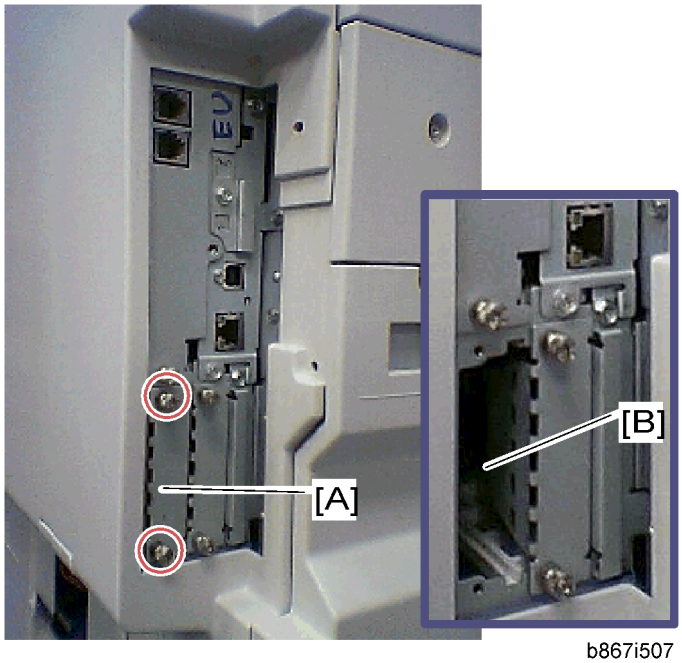
1. Remove the interface cover [A] (x 2).
2. Install the Wireless adaptor in interface slot A [B] (x 2).
3. Select an appropriate FCC label from the FCC sheet, and then attach the FCC label to the non-label side of the Bluetooth card.
4. Install the Bluetooth card in the wireless adaptor.
5. Attach the antenna cap to the Bluetooth card.
6. Turn on the main power switch.
7. 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	Q'ty
1	USB Host Interface Ass'y	1
2	USB Cable	1
3	Ferrite Core	1
4	Clamp	1
5	UL Sheet	1

Installation Procedure



b867i507

1. **Remove the interface cover [A] (x 2).**
2. **Install the USB host board in the interface slot B [B] (x 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.**
5. **Exit the User Tools mode.**

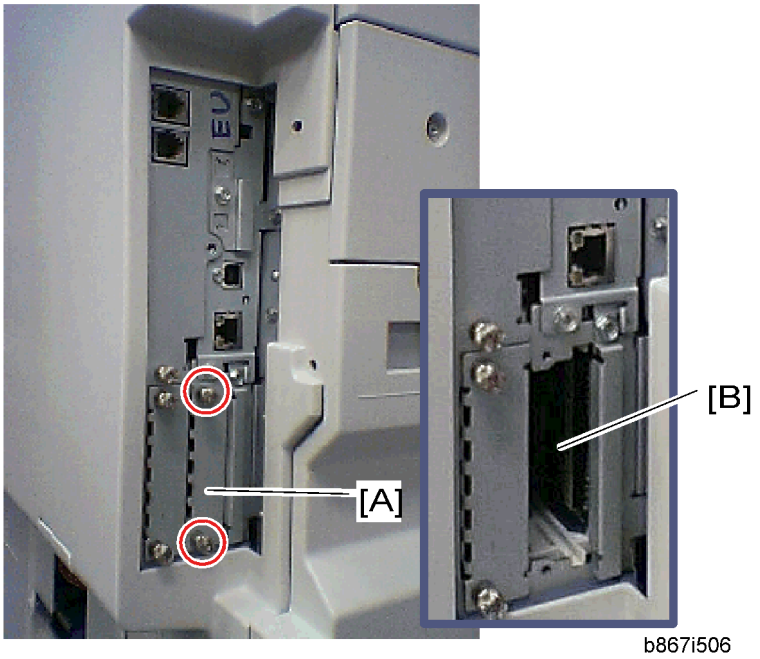
Remote Communication Gate Installation

This option requires the printer/scanner application and DIMM 256 MB.

Component Check

No.	Description	Q'ty
1	Remote Comm. Gate Interface Ass'y	1
2	Cover	1
3	Screw	3

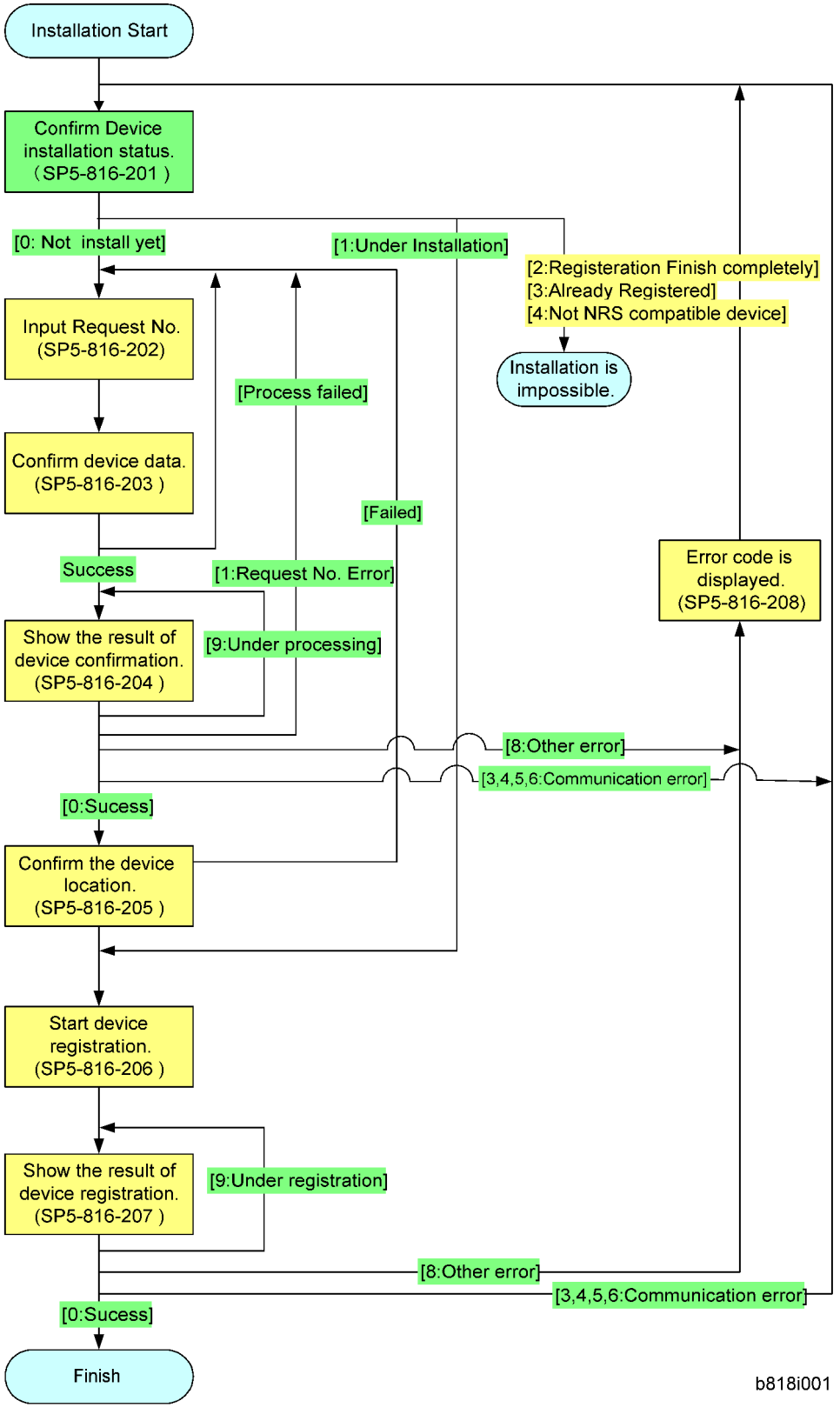
Installation Procedure



b867i506

1. **Remove the interface cover [A] (x 2).**
2. **Install the modem board into interface slot A [B] (x 2).**

3. **Confirm the following SP settings before starting installation flow.**
    - SP5-985-001 ("On Board NIC" is set to "0: OFF".)
    - SP5-816-150 (To Select the country)
    - SP5-816-154 (To set an outside connection telephone number)
    - SP5-816-161 (To set a telephone number)
4. **Follow the Installation flow as shown below with SP mode.**


Installation Start
Confirm Device installation status. (SP5-816-201)
[0: Not install yet]
[1:Under Installation]
[2:Registeration Finish completely]
[3:Already Registered]
[4:Not NRS compatible device]
Installation is impossible.
Input Request No. (SP5-816-202)
[Process failed]
Confirm device data. (SP5-816-203)
[Failed]
Success
[1:Request No. Error]
Error code is displayed. (SP5-816-208)
Show the result of device confirmation. (SP5-816-204)
[9:Under processing]
[8:Other error]
[3,4,5,6:Communication error]
[0:Sucess]
Confirm the device location. (SP5-816-205)
Start device registration. (SP5-816-206)
Show the result of device registration. (SP5-816-207)
[9:Under registration]
[8:Other error]
[3,4,5,6:Communication error]
[0:Sucess]
Finish

b818i001

2. Replacement and Adjustment

Main Board

Precautions

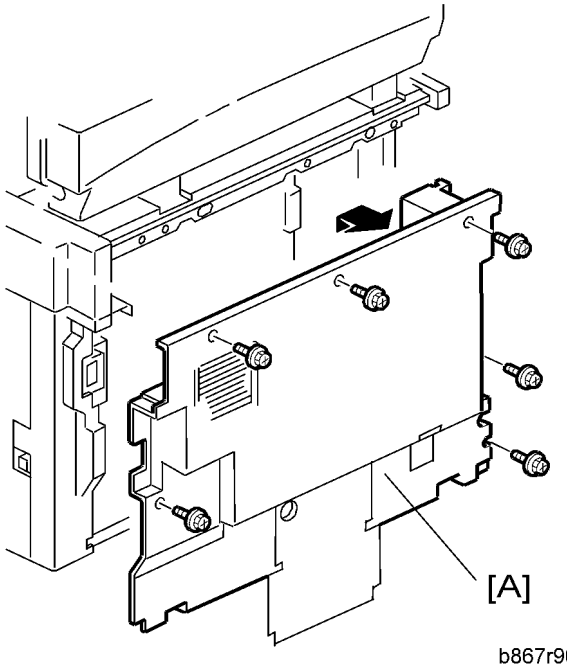
⚠CAUTION

- Turn off the main power switch and unplug the machine before starting replacement.
- Before turning off the main power switch, check that no mechanical component is operating. Mechanical components may stop out of their home positions if you turn off the main power switch while they are operating. The component may be damaged if you try to remove it when it is not in the home position.

Controller Board

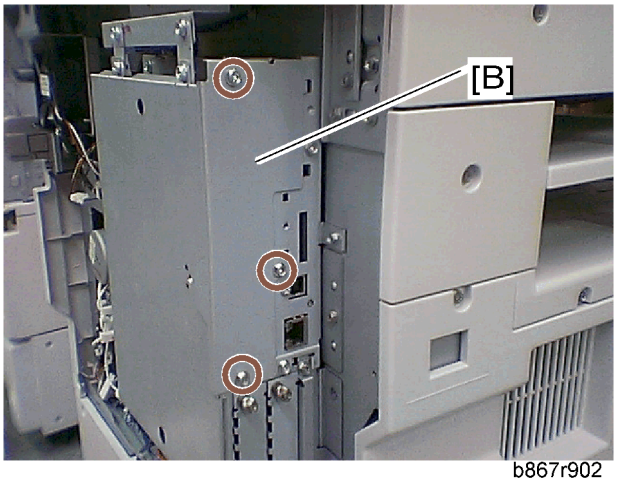
Preparation

- Before replacing the controller board, be sure to print out SMC or save the NVRAM data.
- Saving from the Controller NVRAM to an SD card (☛ "NVRAM Data Upload/Download [SP5-824/825]" in the chapter "Service Tables" of the this manual)

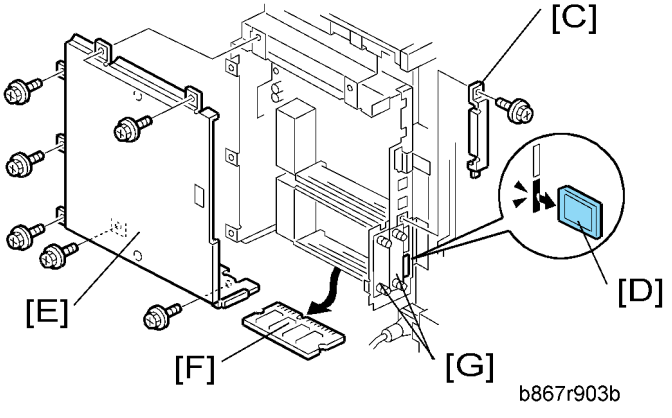


b867r901

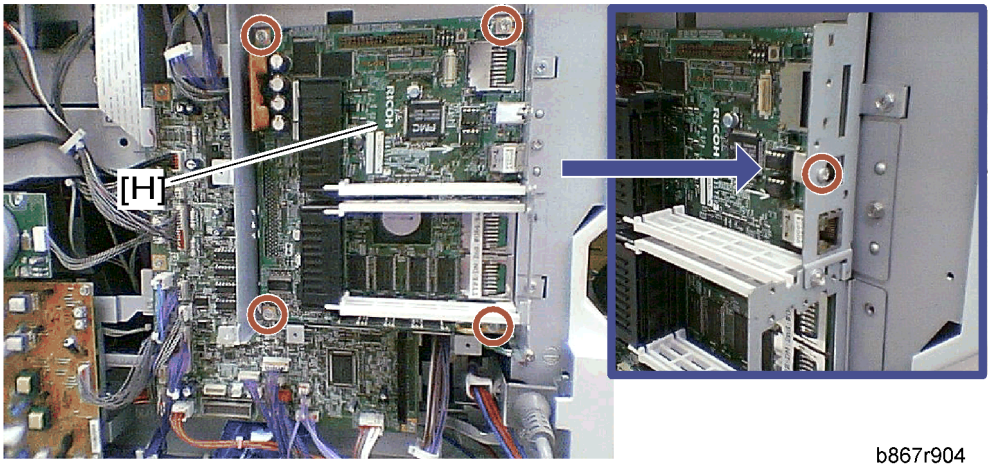
1. Remove the rear cover [A] (x 6)



2. Remove the FCU cover [B] (x 3).

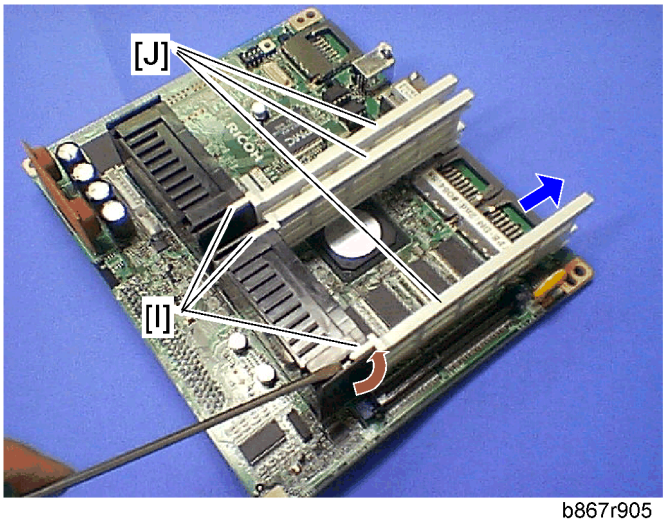


3. Remove the SD-card cover [C] (x 1), and then remove all SD cards in the SD slots.
4. Remove the controller-box cover [E] (x 7).
5. Remove the RAM DIMM [F] if it has been installed.
6. Remove the two I/F covers [G] (or I/F options if they have been installed).



b867r904

7. Remove the controller board with the rails [H] (x 5).



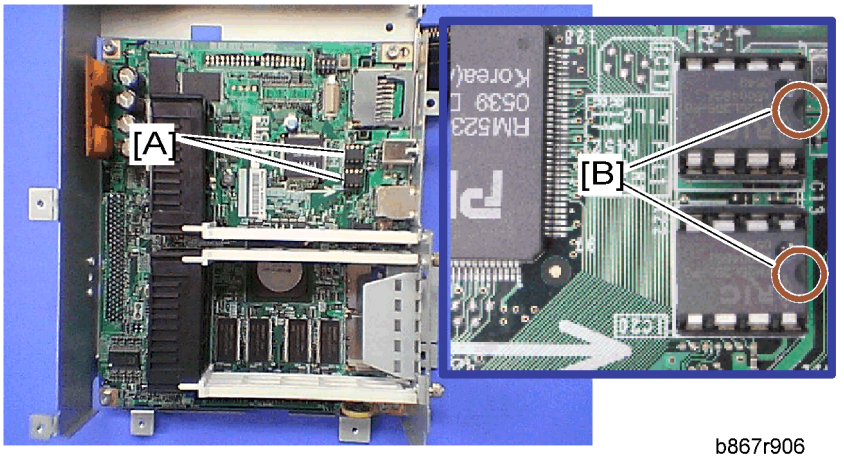
b867r905

8. Release the hooks [I], and then pull out the rails [J].
9. Controller board

Note

- When replacing the controller board, remove the NVRAMs from the board. Install the NVRAMs to the new board.

When replacing the NVRAM on the controller board



b867r906

1. When you replace the NVRAMs [A], make sure that the NVRAMs are correctly installed.
2. The mark [B] on the NVRAM should be directed to the right side (seem from the back side of the machine).
3. Reassemble the machine.
4. Copy the old NVRAM data to the new NVRAM with SP5-825 or input the SMC data in the machine. (For details, refer to the "NVRAM Data Upload/Download [SP5-824/825]" in the chapter "Service Tables" of the this manual)

3. Troubleshooting

Service Call Conditions

Service Call Conditions

There are four levels of service call conditions.

Level	Definition	Reset Procedure
A	To prevent damage to the machine, the main machine cannot be operated until the SC has been reset by a service representative (see the note below).	Enter SP mode, and then turn the main power switch off and on.
B	If the SC was caused by incorrect sensor detection, the SC can be reset by turning the main power switch off and on.	Turn the main power switch off and on.
C	The main machine can be operated as usual, excluding the unit related to the service call.	Turn the main power switch off and on.
D	The SC history is updated. The machine can be operated as usual.	The SC will not be displayed. Only the SC history is updated.

Note

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

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**

⚠CAUTION

- 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.

GW SC Code Descriptions

SC6xx

No. Definition		Symptom	Possible Cause/Countermeasure
630	D	CSS communication error	
		The machine tries to communicate with one of the terminals of a relevant service center. → An error signal returns.	• Communication error on the public telephone network (logged only; the machine can still operate)
632	C	MF accounting device error 1	
		The machine sends a data frame. → No normal end signal returns. → This symptom happens three times.	• Defective or broken line between machine and device
633	C	MF accounting device error 2	
		The machine is communicating with the accounting device. → The break signal returns.	• Defective or broken line between machine and device
634	C	MF accounting device error 3	
		A backup RAM error is reported from the accounting device.	• Defective accounting device controller • Defective battery in the accounting device
635	C	MF accounting device error 4	
		A battery voltage error is reported from the accounting device.	• Defective accounting device controller • Defective battery in the accounting device
636		SD Card Error	
-001	B	Expanded authentication module error	
		There is no expanded authentication module in the machine.	1. Install the correct SD card or the file of the expanded authentication module.

No.	Definition	Symptom	Possible Cause/Countermeasure
		The SD card or the file of the expanded authentication module is broken. There is no DESS module in the machine.	2. Install the DESS module.
-002	B	Version error	
		The version of the expanded authentication module is not correct.	1. Install the correct file of the expanded authentication module.
650		Communication error of the remote service modem (Embedded RCG-M)	
-001	C	Authentication error	
		The authentication for the Embedded RCG-M fails at a dial up connection.	1. Check and set the correct user name (SP5816-156) and password (SP5816-157).
-004	C	Incorrect modem setting	
		Dial up fails due to the incorrect modem setting.	1. Check and set the correct AT command (SP5819-160).
-005	C	Communication line error	
		The supplied voltage is not sufficient due to the defective communication line or defective connection.	1. Consult with the user's local telephone company.
-011	C	Incorrect network setting	
		Both the NIC and Embedded RCG-M are activated at the same time.	1. Disable the NIC with SP5985-1.
-012	C	Modem board error	
		The modem board does not work properly even though the setting of the modem board is installed with a dial up connection.	1. Install the modem board. 2. Check and reset the modem board setting with SP5816. 3. Replace the modem board.
651		Incorrect dial up connection	
-001	D	Program parameter error	

No.	Definition	Symptom	Possible Cause/Countermeasure
		The unexpected error occurs when the modem (Embedded RCG-M) tries to call the center with a dial up connection.	• Software bug.
-002	D	Program execution error	
		Same as SC651-001.	• Software bug.
670	B	Engine startup error	
		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.	• Poor connection between the BICU and controller board • Defective BICU • Defective controller board
672	B	Controller-to-operation panel communication error at startup	
		After powering on the machine, communication between the controller and operation panel does not begin, or the communication is interrupted after a normal startup.	• Controller stalled • Controller board installed incorrectly • Defective controller board • Operation panel connector loose or defective • Poor connection of DIMM and optional boards on the controller board 1. Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (ON)".

SC8xx

No.	Definition	Symptom	Possible Cause/Countermeasure
818	B	Watchdog error	

		While the system program is running, no other programs can run (due to a bus hold or endless loop).	• Defective controller board 1. Reinstall the system program. 2. Replace the controller board.
819	Kernel stop		
[0696e]	B	Process error	
		System completely down	• Defective RAM DIMM • Defective SD card in slot 1 (lowest slot) • Defective controller • Software error 1. Check and/or replace the RAM DIMM. 2. Check and/or replace the SD card in slot 1 (lowest slot). 3. Replace the controller. See **NOTE** at the end of the SC table.
[0766d]	B	VM full error	
		Unexpected system memory size	• Defective RAM DIMM • Defective SD card in slot 1 (lowest slot) • Defective controller • Software error 1. Check and/or replace the RAM DIMM. 2. Check and/or replace the SD card in slot 1 (lowest slot). 3. Replace the controller. See **NOTE** at the end of the SC table.
[4361]	B	Cache error	
		Cache error in the CPU	• Defective CPU 1. Replace the controller board.
[----]	B	The others	

		Error in OS	• Defective memory • Defective flash memory • Defective CPU 1. Replace the controller board.
820	Self-Diagnostic Error: CPU		
	B	[0001-0015] [000A-000D]: Detailed error code	
		During the boot monitor program and self-diagnostic, any exception or cut-in are not supposed to happen. If these happen, it is defined as SC.	• Defective CPU device • Defective boot monitor program or self-diagnostic program 1. Replace the controller board. 2. Reinstall the system firmware.
	B	[00FF]: Detailed error code	
		Cache access error in the CPU	• Defective CPU • Defective local bus 1. Turn the main power switch off and on. 2. Reinstall the system program. 3. Replace the controller board.
	B	[0601, 0602, 0605, 0606, 0607, 0609]: Detailed error code	
		Exceptional command does not operate even though it is executed on purpose.	• Defective CPU devices 1. Replace the controller board.
	B	[060A-060E]: Detailed error code	
		Cut-in command does not operate when it is executed.	• Defective CPU devices • Defective ASIC devices 1. Replace the controller board.
	B	[0610]: Detailed error code	
		Timer cut-in does not operate even though it is set.	• Defective CPU devices 1. Replace the controller board.
	B	[0612]: Detailed error code	
		Cut-in in ASIC occurs.	• Defective ASIC

			• Defective devices in which ASIC detects cut-in. 1. Replace the controller board.
	B	[06FF]: Detailed error code	
		The pipeline clock frequency rate is different from the prescribed value.	• Defective CPU devices • Mode bit data error, which is used for initializing CPU. 1. Replace the controller board.
	B	[0702]: Detailed error code	
		The result when the program is executed in the command cache is different from desirable value.	• Insufficient CPU cache • Insufficient memory process speed 1. Replace the controller board. 2. Replace the RAM DIMM.
	B	[0709, 070A]: Detailed error code	
		Even you write the data in the only cache of memory, the data is actually written in another area (not cache) of memory.	• Defective CPU devices • Incorrect SPD • Boot mode setting error 1. Replace the controller board. 2. Replace the RAM DIMM.
	B	[0801, 0804, 0807, 0808, 0809, 80A]: Detailed error code	
		An error occurs when checking the TLB.	• Defective CPU devices 1. Replace the controller board.
	B	[4002-4005]: Detailed error code	
		The calculation error in the CPU occurs.	• Defective CPU 1. Replace the CPU.
821	Self-Diagnostic Error: ASIC		
[0B00]	B	ASIC error	
		The write-&-verify check error has occurred in the ASIC.	• Defective controller board 1. Replace the controller.

[0B06]	B	ASIC not detected	
		The ASIC of the I/O is not detected.	• ASIC (controller board defective) • Poor connection between North Bridge and PCI I/F. 1. Replace controller board.
[0B10]	C	SHM register check error	
		Failed to initialize or could not read connection bus. Data in SHM register incorrect.	• Defective bus connection • Defective SHM 1. Replace controller board.
[0D05]	B	Timer error between ASIC and CPU	
		The CPU checks if the ASIC timer works properly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.	• System firmware problem • Defective RAM-DIMM • Defective controller • Reinstall the controller system firmware. 1. Replace the RAM-DIMM. 2. Replace the controller board.
822	Self-Diagnostic Error: HDD		
[3003] [3004]	C	[3003]: Timeout error/ [3004]: Command error	
		When the main switch is turned on or starting the self-diagnostic, the HDD stays busy for the specified time or more.	• Loose connection • Defective HDD • Defective controller 1. Check that the HDD is correctly connected to the controller. 2. Replace the HDD. 3. Replace the controller.
823	Self-diagnostic Error: NIB		
[6101]	C	MAC address check sum error	
		The result of the MAC address check sum does not match the check sum stored in ROM.	• Defective controller 1. Replace the controller.

[6104]	C	PHY IC error	
		The PHY IC on the controller cannot be correctly recognized.	Same as SC823-[6101]
[6105]	C	PHY IC loop-back error	
		An error occurred during the loop-back test for the PHY IC on the controller.	Same as SC823-[6101]
824	B	Self-diagnostic Error: NVRAM	
		The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.	• NVRAM damaged or abnormal • Backup battery has discharged • NVRAM socket damaged 1. Replace the NVRAM.
826	B	Self-diagnostic Error: RTC/Optional NVRAM	
		[1501]: Clock error	
		• An RTC device is recognized, and the difference between the RTC device and the CPU exceeds the defined limit. • No RTC device is recognized.	• RTC defective • NVRAM without RTC installed • Backup battery discharged 1. Replace the NVRAM with another NVRAM with an RTC device.
	B	[15FF]: RTC not detected	
		The RTC device is not detected.	• NVRAM without RTC installed • Backup battery discharged 1. Replace the NVRAM with another NVRAM with an RTC device.
827	Self-diagnostic Error: RAM		
[0201]	B	Verification error	
		Error is detected during a write/verify check for the standard RAM (SDRAM DIMM).	• Loose connection • Defective SDRAM DIMM • Defective controller 1. Replace the SDRAM DIMM. 2. Replace the controller.

[0202]	B	Resident memory error	
		The SPD values in all RAM DIMM are incorrect or unreadable.	• Defective RAM DIMM • Defective SPD ROM on RAM DIMM • Defective 12C bus 1. Replace the RAM DIMM.
828	Self-diagnostic Error: ROM		
[0101]	B	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.	• Defective ROM DIMM • Defective controller 1. Replace the ROM DIMM. 2. Replace the controller.
[0104]	B	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.	• Defective ROM DIMM 1. Replace the ROM DIMM.
829	Self-diagnostic Error: Optional RAM		
[0401]	C	Verification error (Slot 1)	
		The data stored in the RAM in Slot 1 does not match the data when reading.	• Not specified RAM DIMM installed • Defective RAM DIMM 1. Replace the RAM DIMM. 2. Replace the controller board.
[0402]	C	Composition error (Slot 1)	
		The result of checking the composition data of the RAM in Slot 1 on the controller is incorrect.	• Not specified RAM DIMM installed • Defective RAM DIMM 1. Replace the RAM DIMM. 2. Replace the controller board.
838	B	Self-diagnostic Error: Clock Generator	

		A verify error occurred when setting data was read from the clock generator via the I2C bus.	• Defective clock generator • Defective I2C bus • Defective I2C port on the CPU 1. Replace the controller board.
851	C	IEEE1394 I/F abnormal	
		The IEEE1394 interface cannot be used, due to a driver error.	• IEEE1394 interface board defective • Defective controller board
853	C	Wireless card startup error	
		The machine starts up. → The IEEE802 11b card connection board is recognized. → The wireless LAN card or bluetooth card is not recognized.	• Loose connection between the wireless card and the connection board
854	C	Wireless card access error	
		The machine has been reading the data from the card. → The machine loses access to the card; the wireless LAN card or bluetooth card connection board is still recognized.	• Loose connection between the wireless card and the connection board
855	C	Wireless card error	
		Some illegal data is found in the card.	• Defective wireless card
856	C	Wireless card connection board error	
		An error is detected in the wireless LAN card or bluetooth card connection board.	• Defective wireless card connection board
857	C	USB I/F Error	
		USB interface error is detected.	• Defective controller 1. Check the USB connections, and make sure that they are securely connected. 2. Replace the controller board.
860	C	HDD startup error at main power on	

		HDD is connected but a driver error is detected. The driver does not respond with the status of the HDD within 30 s.	• No formatted HDD • Label name input during formatting is corrupted. • Defective HDD 1. Reformat the HDD. 2. Replace the HDD.
861	B	HDD reboot error	
		The HDD does not become ready within 30 seconds after the power is supplied to the HDD.	• Loose connection • Defective cables • Defective HDD • Defective controller 1. Check the connection between the HDD and controller. 2. Check and replace the cables. 3. Replace the HDD. 4. Replace the controller.
863	B	HDD read error	
		The data stored in the HDD cannot be read correctly.	• Bad sector detected during operation of the HDD • Defective HDD • Defective controller 1. Reformat the HDD. 2. Replace the HDD when SC863 occurs more than ten times or it takes more than twenty seconds to get ready condition. 3. Replace the controller board.
864	B	HD data CRC error	
		While reading data from the HDD or storing data in the HDD, data transmission fails.	• Defective HDD
865	B	HD access error	

		An error other than SC863 and SC864 is detected while operating the HDD.	• Defective HDD
866	C	SD card authentication error	
		A digital license error of an SD card application is detected.	• SD card data has corrupted. 1. Store correct data in the SD card.
867	B	SD card error	
		An application SD card is removed from the boot slot while an application is activated.	• An application SD card is ejected.
868	B	SD card access error (-13 to -3: File system error, other number: Device error)	
		An error report is sent from the SD card reader.	• SD card not inserted correctly • SD card defective • Controller board defective 1. For a file system error, format the SD card on PC. 2. For a device error, turn the main switch off and on. 3. Remove and re-install the SD card. 4. Replace the SD card. 5. Replace the controller.
870	C	Address book data error	
		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.. **Note** • To recover from the error, do any of the following countermeasures: • Format the address book by using SP5-846-050 (all data in the address book–including the user	• Data corruption • Defective hard disk • Defective controller software 1. 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).

		codes and counters–is initialized).	
872	C	HDD received mail data error	
		An error is detected in the received mail data partition of the HDD at machine initialization.	• Defective HDD • Power failure during an access to the HDD 1. Initialize the HDD partition (SP5-832-007). 2. Replace the HDD.
873	C	HDD sent mail data error	
		An error is detected in the sent mail data partition of the HDD at machine initialization.	• Defective HDD • Power failure during an access to the HDD 1. Initialize the HDD partition (SP5-832-008). 2. Replace the HDD.
874	B	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).	• Not installed Data Overwrite Security Unit (SD card) • Defective HDD 1. Install the Data Overwrite Security Unit (B735). 2. Replace the HDD.
875	B	Delete All error 2: Data area	
		An error is detected while the all data of the HDD or NVRAM are formatted logically by the Data Overwrite Security Unit (B735).	• The logical format for HDD fails. 1. Turn the main switch off/on and try the operation again.
876	Log Data Error		
-001	B	Log Data Error 1	
		An error was detected in the handling of the log data at power on or during machine operation. This can be caused	• Damaged log data file in the HDD 1. Initialize the HDD with SP5832-004.

		by switching the machine off while it is operating.	
-002	B	Log Data Error 2	
		Same as -001	• An encryption module not installed 1. Disable the log encryption setting. 2. Install the encryption module
-003	B	Log Data Error 3	
		Same as -001	• Invalid encryption key log due to defective NVRAM data 1. Initialize the HDD with SP5832-004. 2. Disable the log encryption setting.
-004	B	Log Data Error 4	
		Same as -001	• Unusual encryption function log due to the defective NVRAM data 1. Initialize the HDD with SP5832-004.
-005	B	Log Data Error 5	
		Same as -001	• Installed NVRAM or HDD, which is used in other machine 1. Reinstall the previous NVRAM or HDD. 2. Initialize the HDD with SP5832-004.
-099	B	Log Data Error 99	
		Same as -001	• Other than above causes 1. Ask your supervisor.
877	C	HDD Data Overwrite Security SD card error	
		The all delete cannot be executed even though the Data Overwrite Security Unit (B735) is installed and activated.	• Defective SD card (B735) • Not installed SD card (B735) 1. Replace the NVRAM and then install the new SD card (B735). 2. Check and reinstall the SD card (B735).

880	B	File Format Converter (MLB) error	
		A request to get access to the MLB was not answered within the specified time.	• MLB defective

SC9xx

900	B	Electronic total counter error	
		The value of the total counter is out of the normal range.	• Defective NVRAM
920	C	Printer error	
		An application error that stops the machine operation is detected.	• Defective software 1. Unexpected hardware resource (e.g., memory shortage)
921	C	Printer font error	
		A necessary font is not found in the SD card when the printer application starts.	• A necessary font is not found in the SD card. • The SD card data is corrupted. 1. Check that the SD card stores correct data.
990	B	Software performance error	
		The software attempted to perform an unexpected operation. **NOTE:** 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.	• Software defective • Internal parameter incorrect • Insufficient working memory
991	D	Software continuity error	
		The software attempted to perform an unexpected operation. However,	• Logged only; the machine can continue to operate

		unlike SC990, the process can keep on running.	
992	B	Undefined error	
		An error not controlled by the system occurred (the error does not come under any other SC code).	• Defective software program
997	C	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. • Too complicated nest of the fax group address 1. As for the fax operation problem, simplify the nest of the fax group address.
998	B	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 • An option required by the application (RAM, DIMM, board) is not installed. 1. Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (OFF)".

4. Service Tables

Service Program Mode

⚠CAUTION

- Before accessing the service menu, do the following:
- Confirm that there is no print data in the printer buffer (the 'Data In' LED must not be lit or blinking).
- If there is some data in the buffer, wait until all data has been printed.

⚠CAUTION

- 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 power switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

Note

- The main power LED (⏻) lights or flashes while the platen cover or ARDF is open; while the main unit is communicating with a facsimile or the network server; or while the machine is accessing the memory for reading or writing data.

Enabling and Disabling Service Program Mode

Entering the SP Mode

Clear Mode	1.	Press the Clear Mode key.
1 0 7	2.	Use the keypad to enter "107".
Clear/Stop	3.	Hold down Clear/Stop for at least 3 seconds.
	4.	Enter the Service Mode.
Printer SP **Scanner SP**		Select "Printer SP" to enter printer SP mode. Select "Scanner SP" to enter scanner SP mode.

Exiting the Service Mode

Press the cancel key to exit from the service mode.

GW 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.
  CTL indicates that the data is contained in the NVRAM on the controller board.
- 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 step (with unit) as follows: [Minimum to Maximum / **Default** / Step].
- SSP: Consult your supervisor before you use this program.

SP4-XXX (Mode)

4921*	**[Image Adj Selection]**	
001	Copy	[0 to 10 / 0 / 1]
	Selects which mode the settings from SP4-922 to SP4-932 are used for. 0 = None, 1 = Text 1, 2 =Text 2, 3= Photo 1, 4 = Photo 2, 5 = Photo 3, 6 = Special 1, 7 = Special 2, 8 = Special 3, 9 = Special 4, 10 = Special 5	
002	Fax	[0 to 5 / **0** / 1]
	Selects which mode the settings from SP4-922 to SP4-932 are used for. 0 = None, 1 = Text 1, 2 = Text 2, 3 = Photo 1, 4 = Photo 2, 5 = Special 1	
003	Scanner	[0 to 4 / **0** / 1]
	Selects which mode the settings from SP4-922 to SP4-932 are used for. 0 = None, 1 = Text 1, 2 = Text 2, 3= Photo 1, 4 = Photo 2	

4922*	**[Scanner Gamma]**	
	Selects "text" or "photo" as the priority output mode. This setting is applied to all image processing modes of SP4-921.	
001	Copy	[**0**=System default/ 1=Text/ 2=Photo]

002	Fax	
003	Scanner	

4923*	[Notch Selection] Selects the value of the center ID adjustment notch for the ID adjustment LEDs. • Normally the center notch is 3 (range 1-5). If –1 is selected, each notch shifts down (becomes lighter). If +1 is selected, each notch shifts up (becomes darker). • This setting is applied to all image processing modes of SP4-921.	
001	Copy	[–1 = Light / **0** = Normal / +1 = Dark]
002	Fax	
003	Scanner	

4926*	[Texture Removal] Adjusts the texture removal level that is used with error diffusion. 0: The default value for each mode is used. Text 1, Photo 2, Special 2, and Special 5 have a default of 3 and Photo 1-3 have a default of 1. 1: No removal applied. 2 to 5: Removal applied at the level specified here. The higher the setting (level), the less clear the image will become (more texture removal). This setting is only applied to the originals in SP4-921.	
001	Copy	[0 to 6 / **0** / 1/step]
002	Fax	
003	Scanner	

4927*	[Line Width Correction] Adjusts the line width correction algorithm. Positive settings produce thicker lines; negative settings produce thinner lines. This setting is only applied to the originals in SP4-921.	
001	Copy	[–2 to 2 / **0** / 1/step]
002	Fax	
003	Scanner	

4928*	**[Independent Dot Erase]**	
	Selects the dot erase level. Higher settings provide greater erasure. This setting is only applied to the originals in SP4-921.	
001	Copy	[–2 to 2 / **0** / 1/step]
002	Fax	
003	Scanner	

4929*	**[Positive/Negative]**	[**0 = No**, 1 = Yes]
	Inverts white and black. This setting is only applied to the originals in SP4-921.	
001	Copy	
002	Fax	

4930*	**[Sharpness-Edge]**	[–2 to 2 / **0** / 1/step]
	Adjust the clarity. This setting is only applied to the originals in SP4-921.	
001	Copy	
002	Fax	
003	Scanner	

4931*	**[Sharpness-Solid]**	[–2 to 2 / **0** / 1/step]
	Adjust the clarity. This setting is only applied to the originals in SP4-921.	
001	Copy	
002	Fax	
003	Scanner	

4932*	**[Sharpness-Low ID]**	[–2 to 2 / **0** / 1/step]
	Adjust the clarity. This setting is only applied to the originals in SP4-921.	
001	Copy	
002	Fax	

003	Scanner

SP5-XXX (Mode)

5001	[All Indicators On]
001	All LEDs turn on. The LCDs turn on or off with "ON" or "OFF" key.

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

5045	[Display-Counter]
001	Slects the counting display if the meter charge mode is enabled with SP5-930-001. Note • You can change the setting only one time. [0 to 2/ **0** / 1 /step] 0: 1 counter (Total) 1: 2 counters (Total and Prints) 2: 2 counters GPC

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

5055	[Display IP address]		
001	Display IP address	CTL	Displays or does not display the IP address on the LCD. [0 or 1 / **0** / -]

			0: No, 1: Yess

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

5104*	[A3 Double Count] SSP		
	A3 Double Count	CTL	[**0 = No** / 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", 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	Optional Counter Type 1	CTL	This program specifies the counter type. **0: None** 1: Key card (RK 3, 4) 2: Key card (down) 3 to 10: Japan only 11: Exp. key card (Add) 12: Exp. key card (Deduct)
002	Optional Counter Type 2	CTL	This program specifies the external counter type. **0: None** 1: Expansion device 1

			2: Expansion device 2 3: Expansion device 3

5114	[MF Key Card Ext.]	CTL	[0: Not installed/ 1: Installed (scanning accounting)]
001	Japan use		

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

5120*	[Clr For Cnt Remove]	CTL	[0=Yes / 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*	[Counter Up Timing]	CTL	[0 = Feed In / 1 = Exit]
001	Selects whether the key counter increments at time of paper feed-in or at time of paper exit.		

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

5150	[By-pass Long Paper]	CTL	[0 = Feed In / 1 = Exit]
001	Determines whether the transfer sheet from the by-pass tray is used or not. Normally the paper length for sub scanning paper from the by-pass tray is limited to 600 mm, but this can be extended with this SP to 1260 mm.		

5167	[Fax Printing Cnt Off]		
	Enables or disables the automatic print out without an accounting device. This SP is used when the receiving fax is accounted by an external accounting device.		
001	Fax Printing Counter Off	CTL	[0 or 1 / 0 / –] 0: Automatic printing

			1: No automatic printing

5169	**[CE Login]**		
	If you change the printer bit switches, you must 'log in' to service mode with this SP before you go into the printer SP mode.		
001	CE Login	CTL	[0 or 1 / **0** / -] 0: Disabled 1: Enabled

5188	**[Copy NV Version]**		
001	Copy NV Version	CTL	Displays the NVRAM version in the controller board.

5302	**[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) NA :-300 (New York) EU :+ 60 (Paris) CH :+480 (Peking) TW :+480 (Taipei) AS :+480 (Hong Kong)		
002	Time Difference	CTL #	[-1440 to 1440 / **Area** / 1 min./step]

5307	**[Summer Time]**		
001	ON/OFF	-	[0 or 1 / **NA, EU, ASIA** / 1 /step] 0: Disabled 1: Enabled NA and EUR: 1, ASIA: 0
	Enables or disables the summer time mode.		

	Note • 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".		
003	Start	-	-
	Specifies the start setting for the summer time mode. There are 8 digits in this SP. For months 1 to 9, the "0" cannot be input in the first digit, so the eight-digit setting for -2 or -3 becomes a seven-digit setting. 1st 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 for the summer time mode. There are 8 digits in this SP. 1st and 2nd digits: The month. [1 to 12] 3rd digit: The week of the month. [0 to 5] 4th digit: The day of the week. [0 to 6 = Sunday to Saturday] 5th and 6th digits: The hour. [00 to 23] The 7th and 8th digits must be set to "00". • The digits are counted from the left. • Make sure that SP5-307-1 is set to "1".		

5401	**[Access Control]**		
	When installing the SDK application, SAS (VAS) adjusts the following settings. **DFU**		
006	C	CTL	**SSP:** These SPs are not disclosed due to the security protection.

016	DS	CTL	
026	F	CTL	
036	S	CTL	
046	P	CTL	
076	SDK 1	CTL	
086	SDK 2	CTL	
096	SDK 3	CTL	
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 / **0** / 1 /step] **DFU**
210	SDK2 Unique ID	CTL	**DFU**
211	SDK2 Certification Method	CTL	[0 to 255 / **0** / 1 /step] **DFU**
220	SDK3 Unique ID	CTL	**DFU**
221	SDK3 Certification Method	CTL	[0 to 255 / **0** / 1 /step] **DFU**

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.

5501	**[PM Alarm Interval]**	CTL	-
001	Printout	[0 to 9999 / **0** / 1 /step] 0: Alarm off	

		1 to 9999: Alarm goes off when the PM counter reaches the specified value (1 to 9999) x 1000.
002	ADF	[0 or 1 / **1** / –] 0: No alarm sounds 1: Alarm sounds after the number of originals passing through the A(R)DF ≥ 10,000

5504	[Jam Alarm]	CTL	-
001	Sets the alarm to sound for the specified jam level (document misfeeds are not included). [0 to 3 / **3** / 1 /step] 0: Zero (Off), 1: Low (2.5K jams), 2: Medium (3K jams), 3: High (6K jams)		

5505*	[Error Alarm]
001	Sets the error alarm level. The error alarm counter counts "1" when any SC is detected. However, the error alarm counter decreases by "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 / **15** / 100 copies per step]

5507	[Supply Alarm]	CTL	-
001	Paper Size	**0**: Off, 1: On,	
003	Toner	**0**: Off, 1: On,	
128	Interval :Others	[250 to 10000 / **1000** / 1 /step]	
132	Interval :A3		
133	Interval :A4		
134	Interval :A5		
141	Interval :B4		
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.		
002*	Frequent Jams	0: Disable, 1: Enable	
	Enables/disables initiating a call for consecutive paper jams.		
003*	Door Open	0: Disable, 1: Enable	
	Enables/disables initiating a call when the front door remains open.		
011*	Jam Remains: Time	[03 to 30 / 10 / 1 minute /step]	
	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.		
012*	Freq Jam: # of Time	[02 to 10 / 5 / 1 /step]	
	Sets the number of consecutive paper jams required to initiate a call. This setting is enabled only when SP5508 004 is set to 1.		
013*	Door Open: Time	[03 to 30 / 10 / 1 minute/step]	
	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.		
021*	Jam Remains: Mode	0: Automatic Call 1: Audible Warning at Machine	
	Determines what happens when a paper jam is left unattended.		
022*	Freq Jam: Mode	0: Automatic Call 1: Audible Warning at Machine	
	Determines what happens when a paper jam happens continually.		
023*	Door Open: Mode	0: OFF, 1: ON	
	Determines what happens if the door remains open (15 min.).		

	Displays a warning if set to ON. Pressing the call button will contact the service center.

5515	[SC/Alarm Setting]	CTL	-
	With @Remote in use, these SP codes can be set to issue an SC call when an SC error occurs. If this SP is switched off, the SC call is not issued when an SC error occurs.		
001	SC Call	[0 or 1 / **1** / -] 0: Off, 1: On	
002	Service Parts Near End		
003	Service Parts End		
004	User Call		
006	Communication Test		
007	Machine Information		
008	Alarm Notice		
010	Supply Automatic Order	[0 or 1 / **0** / -] 0: Off, 1: On	
011	Supply Management Report		
012	Jam/Door Open Call	[0 or 1 / **1** / -] 0: Off, 1: On	

5801	[Memory Clear] Before executing any of these SP codes, print an SMC Report.		
001	All Clear		
	Initializes items SP5801-002 to -014 below. Turn the main power switch off and on after executing this SP.		
003	SCS	-	-
	Clears the system settings.		
004	IMH	-	-
	Clears IMH data. **DFU**		
005	MCS	-	-
	Clears MCS data. **DFU**		
006	Copier	-	-

	Clears the copy application settings.		
007	Fax	-	-
	Clears the fax application settings.		
008	Printer	-	-
	Clears the printer application settings.		
009	Scanner	-	-
	Clears the scanner application settings.		
010	GWWS	-	-
	Delete the netfile application management files and thumbnails, and initializes the job login ID.		
011	NCS	-	-
	Initializes the system default and interface settings (IP address also), SmartNetMonitor for Admin, WebStatusMonitor settings, and the TELNET settings. The name of Apple talk is not cleared only if this SP is executed. Turns off and on after executing this SP.		
012	R-FAX	-	-
	Initializes the job login ID, SmartNetMonitor for Admin, job history, and local storage file numbers.		
014	Clear DCS Setting	-	-
	Initializes the DCS (Delivery Control Service) settings.		
015	Clear UCS Setting	-	-
	Initializes the UCS (User Information Control Service) settings.		
016	MIRS Setting	-	-
	Initializes the MIRS (Machine Information Report Service) settings.		
017	CCS	-	-
	Initializes the CCS (Certification and Charge-control Service) settings.		
018	SRM Memory Clr	-	-

	Initializes the SRM (System Resource Manager) settings.		
019	LCS	-	-
	Initializes the LCS (Log Count Service) settings.		

5811*	**[Machine Serial]** Machine Serial Number		
001	Set	-	(☛ "Serial Number Input")

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).		

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: @Remote service on	
002	CE Call	Performs the CE Call at the start or end of the service. [0 or 1 / **0** / 1 /step] 0: Start of the service, 1: End of the service **Note** • This SP is activated only when SP 5816-001 is set to "2".	
003	Function Flag	Enables or disables the remote service function. [0 or 1 / **0** / 1 /step]	

		0: Disabled, 1: Enabled
007	SSL Disable	Uses or does not use the RCG certification by SSL when calling the RCG. [0 or 1 / **0** / 1 /step] 0: Uses the RCG certification 1: Does no use the RCG certification
008	RCG Connect Timeout	Specifies the connect timeout interval when calling the RCG. [1 to 90 / **10** / 1 second/step]
009	RCG Write Timeout	Specifies the write timeout interval when calling the RCG. [1 to 100 / **60** / 1 second/step]
010	RCG Read Timeout	Specifies the read timeout interval when calling the RCG. [1 to 100 / **60** / 1 second/step]
011	Port 80	Enables/disables access via port 80 to the SOAP method. [0 or 1 / **0** / –] 0: Disabled, 1: Enabled
021	Function Flag	
	This SP displays the embedded RCG installation end flag. 1: Installation completed 2: Installation not completed	
022	Install Status	
	This SP displays the RCG device installation status. 0: RCG device not registered 1: RCG device registered 2: Device registered	
023	Connect Mode (N/M)	
	This SP displays and selects the embedded RCG connection method. **0**: Internet connection 1: Dial-up connection	
061	NotiTime ExpTime **DFU**	

	Proximity of the expiration of the certification.
062	HTTP Proxy Use
	This SP setting determines if the proxy server is used when the machine communicates with the service center.
063	HTTP Proxy Host
	This SP sets the address of the proxy server used for communication between embedded RCG-N and the gateway. Use this SP to set up or display the customer proxy server address. The address is necessary to set up embedded RCG-N. **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.
064	HTTP Proxy Port Number
	This SP sets the port number of the proxy server used for communication between embedded RCG N and the gateway. This setting is necessary to set up embedded RCG-N. **Note** • This port number is customer information and is not printed in the SMC report.
065	HTTP Proxy Aut Usr
	This SP sets the HTTP proxy authentication user name. **Note** • The length of the name is limited to 31 characters. Any character beyond the 31st character is ignored. • This name is customer information and is not printed in the SMC report.
066	HTTP Proxy Aut Pass
	This SP sets the HTTP proxy authentication password. **Note** • The length of the password is limited to 31 characters. Any character beyond the 31st character is ignored. • This name is customer information and is not printed in the SMC report.
067	Cer Updt Cond

	Displays the status of the certification update.	
	0	The certification used by embedded RCG is set correctly.
	1	The certification request (setAuthKey) for update has been received from the GW URL and certification is presently being updated.
	2	The certification update is completed and the GW URL is being notified of the successful update.
	3	The certification update failed, and the GW URL is being notified of the failed update.
	4	The period of the certification has expired and a 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 been 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.
068	Cer Abnml Cause	
	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 (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.	
084	Firm UpFlg No HDD	
	This setting determines if the firmware can be updated, even without the HDD installed.	
085	Firm Up Usr Conf	
	This SP setting determines if the operator can confirm the previous version of the firmware before the firmware update execution. If the option to confirm the previous version is selected, a notification is sent to the system manager and the firmware update is done with the firmware files from the URL.	
086	Firmware Size	
	Allows the service technician to confirm the size of the firmware data files during the firmware update execution.	
087	CERT: Macro Version	
	Displays the macro version of the @Remote certification.	
088	CERT: PAC Version	
	Displays the PAC version of the @Remote certification.	
089	CERT: ID2 Code	
	Displays ID2 for the @Remote certification. Spaces are displayed as underscores (_). Asterisks (*) indicate that no @Remote certification exists.	
090	CERT: Subject	

	Displays the common name of the @Remote certification subject. CN = the following 17 bytes. Spaces are displayed as underscores (_). Asterisks (*) indicate that no DESS exists.
091	CERT: Serial Number
	Displays serial number for the @Remote certification. Asterisks (*) indicate that no DESS exists.
092	CERT: Issuer
	Displays the common name of the issuer of the @Remote 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 @Remote certification is enabled.
094	CERT: End ExpTime
	Displays the end time of the period for which the current @Remote certification is enabled.
150	Ins Country
	Select from the list the name of the country where embedded RCG-M is installed in the machine. After selecting the country, you must also set the following SP codes for embedded RCG-M: • SP5816-153 • SP5816-154 • SP5816-161 0: Japan, 1: USA, 2: Canada, 3: UK, 4: Germany, 5: France 6: Italy, 7: Netherlands, 8: Belgium, 9: Luxembourg, 10: Spain
151	Aut Line Detect
	Press [Execute]. Setting this SP classifies the telephone line where embedded RCG-M is connected as either dial-up or push type, so embedded RCG-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.
152	Line Detect Rst

	Displays a number to show the result of the execution of SP5816 151. 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.
153	Dial/Push Select
	This SP displays the classification (tone or pulse) of the telephone line to the access point for embedded RCG-M. The number displayed (0 or 1) is the result of the execution of SP5816 151. However, this setting can also be changed manually. [0 to 1 / **0** / 1 /step] 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
154	Outline Phone #
	The SP sets the number that switches to PSTN for the outside connection for embedded RCG-M in a system that employs a PBX (internal line). • If the execution of SP5816-151 has succeeded and embedded RCG-M has connected to the **external** line, this SP display is completely blank. • If embedded RCG-M has connected to an **internal** line, then the number of the connection to the external line is displayed. • If embedded RCG-M has connected to an external line, a comma is displayed with the number. The comma is inserted for a 2 sec. pause. • The number setting for the external line can be entered manually (including commas).

155	Remove Service: PPP Recognition Timeout
	SSP: Sets the length of the timeout for the embedded RCG-M connection to its access point. The timeout is the time from when the modem sends the ATD to when it receives the result code. [1 to 65536 / **60** / 1 /step]
156	Dial Up User
	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 • Spaces and # allowed but the entire entry must be enclosed by double quotation marks (").
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 • Spaces and # allowed but the entire entry must be enclosed by double quotation marks (").
161	Phone Number
	Use this SP to set the telephone number of the line where embedded RCG-M is connected. This number is transmitted to and used by the Call Center to return calls. Limit: 24 numbers (numbers only)
162	Ans Timing Adj
	When the Call Center calls out to a embedded RCG-M modem, it sends a repeating ID tone (*#1#). This SP sets the time the line remains open to send these ID tones after the number of the embedded RCG-M modem is dialed up and connected. [0 to 24/ **1** /1 /step] The actual amount of time is this setting + 2 sec. For example, if you set "2" the line will remain open for 4 sec.
163	Access Point
	This is the number of the dial-up access point for embedded RCG-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
164	Comm Line
	This SP sets the connection conditions for the customer. This setting dedicates the line to embedded RCG-M only, or sets the line for sharing between embedded RCG-M and a fax unit. [0 or 1 / **0** / -] 0: Line shared by embedded RCG-M/Fax 1: Line dedicated to embedded RCG-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 an embedded RCG-M transmission in progress to open the line for fax transaction.
173	Modem Serial Number
	This SP displays the serial number registered for the embedded RCG-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, embedded RCG-M generates charges based on transmission time for the customer, so a limit is placed upon the time allowed for these transactions. If these transactions cannot be completed within the allowed time, do this SP to cancel the time restriction.
187	FAX TX Priority
	This SP determines whether pushing the off-hook button will interrupt an embedded RCG-M transmission in progress to open the line for fax transaction. This SP can be used only if SP5816-164 is set to "0". [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 embedded RCG-M transmission, the button must be pushed again to set the fax unit on-hook after the embedded RCG-M transmission has completed. 1: Enable. When embedded RCG-M shares a line with a fax unit, setting the fax unit off-hook will interrupt a embedded RCG-M transmission in progress and open the line for a fax transaction.

200	Polling Man Exc
	Executes the polling test.
201	Instl: Condition
	Displays a number that indicates the status of the @Remote service device. 0: Neither the registered device by the external RCG nor embedded RCG device is set. 1: The embedded RCG device is being set. Only Box registration is completed. In this status the this unit cannot answer a polling request from the external RCG. 2: The embedded RCG device is set. In this status the external RCG unit cannot answer a polling request. 3: The registered device by the external RCG is being set. In this status the embedded RCG device cannot be set. 4: The registered module by the external RCG has not started.
202	Instl: ID#
	Allows entry of the number of the request needed for the embedded RCG.
203	Instl: Reference
	Executes the inquiry request to the @Remote GateWay URL.
204	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 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
205	Instl: Ref Section

<table>
<tr><td></td><td colspan="3">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.</td></tr>
<tr><td rowspan="2">206</td><td colspan="3">Instl: Rgstltn</td></tr>
<tr><td colspan="3">Executes Embedded RCG Registration.</td></tr>
<tr><td rowspan="2">207</td><td colspan="3">Instl: Rgstltn Rst</td></tr>
<tr><td colspan="3">Displays a number that indicates the registration result.
0: Succeeded
2: Registration in progress
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: Registration executing</td></tr>
<tr><td rowspan="10">208</td><td colspan="3">Instl Error Code</td></tr>
<tr><td colspan="3">Displays a number that describes the error code that was issued when either SP5816 204 or SP5816 207 was executed.</td></tr>
<tr><td>Cause</td><td>Code</td><td>Meaning</td></tr>
<tr><td rowspan="3">Illegal Modem Parameter</td><td>-11001</td><td>Chat parameter error</td></tr>
<tr><td>-11002</td><td>Chat execution error</td></tr>
<tr><td>-11003</td><td>Unexpected error</td></tr>
<tr><td rowspan="3">Operation Error, Incorrect Setting</td><td>-12002</td><td>Inquiry, registration attempted without acquiring device status.</td></tr>
<tr><td>-12003</td><td>Attempted registration without execution of an inquiry and no previous registration.</td></tr>
<tr><td>-12004</td><td>Attempted setting with illegal entries for certification and ID2.</td></tr>
<tr><td>Error Caused by Response from GW URL</td><td>-2385</td><td>Attempted dial up overseas without the correct international prefix for the telephone number.</td></tr>
</table>

		-2387	Not supported at the Service Center
		-2389	Database out of service
		-2390	Program out of service
		-2391	Two registrations for same device
		-2392	Parameter error
		-2393	External RCG not managed
		-2394	Device not managed
		-2395	Box ID for external RCG is illegal
		-2396	Device ID for external RCG is illegal
		-2397	Incorrect ID2 format
		-2398	Incorrect request number format
209	Instl Clear		
	Releases a machine from its embedded RCG setup.		
250	Print Com Log		
	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 FFFFFFFFh/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 / **1** / 1 / step] 0: Disabled, 1: Enabled	
052	ECP (Centro)	Enables or disables ECP Compatibility. [0 or 1 / **1** / 1 / step] 0: Disabled, 1: Enabled **NOTE:** This SP is activated only when SP5-828-50 is set to "1".	
065	Job Spooling	Enables/disables Job Spooling. [0 or 1 / **0** / 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)	
069	Job Spooling (Protocol)	Validates or invalidates the job spooling function for each protocol. **0**: Validates 1: Invalidates bit0: LPR bit1: FTP bit2: IPP bit3: SMB bit4: BMLinkS bit5: DIPRINT bit6: (Reserved) bit7: (Reserved)	
090	TELNET (0: OFF 1: ON)	Enables or disables the Telnet protocol. [0 or 1 / **1** / –]	

		0: Disable, 1: Enable
091	Web (0: OFF 1: ON)	Enables or disables the Web operation. [0 or 1 / **1** / –] 0: Disable, 1: Enable
145	Active IPv6 Link	
	This is the IPv6 local address link referenced on the Ethernet or wireless LAN (802.11b) in the format: "Link Local Address" + "Prefix Length" The IPv6 address consists of a total of 128 bits configured in 8 blocks of 16 bits each.	
147	Active IPv6 Status Address 1	These SPs are the IPv6 status addresses (1 to 5) referenced on the Ethernet or wireless LAN (802.11b) in the format: "Status Address" + "Prefix Length" The IPv6 address consists of a total of 128 bits configured in 8 blocks of 16 bits each.
149	Active IPv6 Status Address 2	
151	Active IPv6 Status Address 3	
153	Active IPv6 Status Address 4	
155	Active IPv6 Status Address 5	
156	IPv6 Manual Setting Address	
	This SP is the IPv6 manually set address referenced on Ethernet or wireless LAN (802.11b) in the format: "Manual Set Address" + "Prefix Length" The IPv6 address consists of a total of 128 bits configured in 8 blocks of 16 bits each.	
158	IPv6 Gateway Address	
	This SP is the IPv6 gateway address referenced on Ethernet or wireless LAN (802.11b). The IPv6 address consists of a total of 128 bits configured in 8 blocks of 16 bits each.	

5840	**[IEEE 802.11b]**		
006	Channel MAX	CTL	[1 to 11 or 13 / **11** or **13** / 1 /step] Europe: 1 to 13, default: 13 NA/ Asia: 1 to 11, default: 11
	Sets the maximum number of channels available for data transmission via 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. **DFU**		

	Note • Do not change the setting.		
007	Channel MIN	CTL	[1 to 11 or 13 / **1** / 1 /step] 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. **DFU** Note • Do not change the setting.		
011	WEP Key Select	CTL	[00 to 11 / 00 / 1 binary] 00: Key #1 01: Key #2 (Reserved) 10: Key #3 (Reserved) 11: Key #4 (Reserved)
	Selects the WEP key.		

5842	**[GWWS Analysis] DFU**		
001	Setting 1	CTL	
	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
		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	CTL	
	Default: Bit SW 0000 0000	Bit	Groups
		0-6	Not used
		7	Log time stamp setting 0: Date/Hour/Minute/Second 1: Minute/Second/Msecond

5844	**[USB]**		
001	Transfer Rate	CTL	
	Sets the speed for USB data transmission. [Full Speed] [Auto Change]		
002	Vendor ID	CTL	
	Sets the vendor ID: Initial Setting: 0x05A Ricoh Company [0x0000 to 0xFFFF/1] **DFU**		
003	Product ID	CTL	
	Sets the product ID. [0x0000 to 0xFFFF/1] **DFU**		
004	Device Release No.	CTL	
	Sets the device release number of the BCD (binary coded decimal) display. [0000 to 9999/1] **DFU** Enter as a decimal number. NCS converts the number to hexadecimal number recognized as the BCD.		

5845	**[Delivery Server Setting]**	CTL	-
	Provides items for delivery server settings.		
001	FTP Port Num	[0 to 65535 / **3670** / 1 /step]	
	Sets the FTP port number used when image files to the Scan Router Server.		

002	Srv IP (Primary)	Range: **000.000.000.000** to 255.255.255.255
	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.	
003	Retry Interval	[60 to 999 / **300** / 1 second /step]
	Specifies the interval time for sending the scanned image data to the deliver server or SMTP/FTP/NCP/SMB server after sending error.	
004	Number of Retries	[0 to 99 / **3** / 1 time/step]
	Specifies the retry times for sending the scanned image data to the deliver server or SMTP/FTP/NCP/SMB server after sending error.	
006	Delivery Error Display Time	[0 to 999 / **300** / 1 second /step]
	Use this setting to determine the length of time the prompt message is displayed when a test error occurs during document transfer with the NetFile application and an external device.	
008	Srv IP (Secondary)	Range: **000.000.000.000** to 255.255.255.255
	Specifies the IP address assigned to the computer designated to function as the secondary delivery server of Scan Router. This SP allows only the setting of the IP address without reference to the DNS setting.	
009	Delivery Server Model	[0 to 4 / **0** / 1 /step]
	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	
010	Delivery Svr Capability	[0 to 255 / **0** / 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 address possible	
	Bit5 = 1 Mail RX confirmation setting possible	
	Bit4 = 1 Address book automatic update function exists	
	Bit3 = 1 Fax RX delivery function exists	
	Bit2 = 1 Sender password function exists	
	Bit1 = 1 Function to link MK-1 user and Sender exists	

	Bit0 = 1 Sender specification required (if set to 1, Bit6 is set to "0")	
011	Delivery Svr Capability (Ext)	[0 to 255 / **0** / 1 /step]
	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	
013	Svr Schm (Primary)	-
	Specifies the scheme of the primary delivery server.	
014	Svr Port Num (Pri)	-
	Specifies the port number of the primary delivery server.	
015	Srv URL Path (Pri)	-
	Specifies the URL path of the primary delivery server.	
016	Svr Schm (Sec)	-
	Specifies the scheme of the secondary delivery server.	
017	Svr Port Num (Sec)	-
	Specifies the port number of the secondary delivery server.	
018	Srv URL Path (Sec)	-
	Specifies the URL path of the secondary delivery server.	
019	CapSvr Schm	-
	Specifies the scheme of the capture server.	
020	CapSvr Port Num	-
	Specifies the port number of the capture server.	
021	CapSrv URL Path	-
	Specifies the URL path of the s capture server.	
022	Rapid-fire Send	[0 or 1 / **1** / -] 0: Disable, 1: Enable

	Enables or disables the prevention function for the continuous data sending.

5846	**[UCS Settings]**	CTL	-
001	Machine ID (Delivery Server)		Displays ID
	Displays the unique device ID in use by the delivery server directory. The value is only displayed and cannot be changed. This ID is created from the NIC MAC or IEEE 1394 EUI. The ID is displayed as either 6-byle or 8-byte binary.		
002	Machine ID Clear (Delivery Server)		Clears ID
	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.		
003	Maximum Entries		[150 to 999 / **150** / 1 /step]
	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 the data (excluding user code information) is displayed.		
006	Delivery Server Retry Timer		[0 to 255 / **0** / 1 /step]
	Sets the interval for retry attempts when the delivery server fails to acquire the delivery server address book.		
007	Delivery Server Retry Times		[0 to 255 / **0** / 1 /step]
	Sets the number of retry attempts when the delivery server fails to acquire the delivery server address book.		
008	Delivery Server Maximum Entries		[200 to 999 / **200** / 1/step]
	Sets the maximum number account entries of the delivery server user information managed by UCS.		
010	LDAP Search Timeout		[1 to 255 / **60** / 1 /step]
	Sets the length of the timeout for the search of the LDAP server.		
041	[AddrB Acl Info] Address Book Access Control List Information		
	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.	
042	Addr B Mig (SD → SD)	[0 to 10 / **0** / 1 /step] 0: Not decided yet 1: Slot 1 to 10: Slot 10
	This SP copies an address book data in a SD card to another SD card. Select the destination slot where you want to move an address book data, and then press "Execute" key. You can check where an address book data is in with SP5-846-043.	
043	Addr B Media	-
	Displays the slot number where an address book data is in.	
047	Initialize Local Addr Book	Clears the local address book information, including the user code.
048	Initialize Delivery Addr Book	Clears the distribution address book information, except the user code.
049	Initialize LDAP Addr Book	Clears the LDAP address book information, except the user code.
050	Initialize All Addr Book	Clears all directory information managed by UCS, including all user codes. Turn the main power switch off and on after executing this SP.
051	Backup All Addr Book	Uploads all directory information to the SD card.
052	Restore All Addr Book	Downloads all directory information from the SD card.
053	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. This feature does not work if the card is write-protected. **Note** • 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.	
060	Search Option	

	This SP uses bit switches to set up the fuzzy search options for the UCS local address book. Bit0: Checks both upper/lower case characters Bit1: Japan only Bit2 to 7: Not used
062	Compl Opt1
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to **upper case** and sets the length of the password. [0 to 32 / **0** / 1 /step] **Note** • This SP does not normally require adjustment. • This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
063	Compl Opt2
	Use this SP to set the conditions for password entry to access the local address book. Specifically, this SP limits the password entry to **lower case** and defines the length of the password. [0 to 32 / **0** / 1 /step] **Note** • This SP does not normally require adjustment. • This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
064	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 **numbers** and defines the length of the password. [0 to 32 / **0** / 1 /step] **Note** • This SP does not normally require adjustment. • This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.
065	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 **symbols** and defines the length of the password. [0 to 32 / **0** / 1 /step] **Note** • This SP does not normally require adjustment. • This SP is enabled only after the system administrator has set up a group password policy to control access to the address book.	
091	FTP Auth Port Setting	Specifies the FTP port for getting a distribution server address book that is used in the identification mode. [0 to 65535 / **3671** / 1 /step]
094	Encryption Stat	Shows the status of the encryption function for the address book data.

5848	**[Web Service]**	CTL	-
	SP5848-1 sets the 4-bit switch assignment for the access control setting. Setting of 0001 has no effect on access and delivery from Scan Router. ac: Access Control		
004	ac: UD (only Lower 4 bits)	Switches access control on and off. **0000**: No access control 0001: Denies access to DeskTop Binder.	
007	ac: Log Fax (Lower 4 bits)		
009	ac: Job Ctrl (Lower 4 bits)		
011	ac: Device Management (Lower 4 bits)		
022	ac: Uadmin (Lower 4bits)		
210	Log Type: Job1	Displays the log server settings. These can be adjusted with the Web Image Monitor.	
211	Log Type: Job2		
212	Log Type: Access		
213	Primary Srv		
214	Secondary Srv		
215	Start Time		

216	Interval Time	Specifies the transmit interval. [1 to 1000 / **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 / **0** / 1/step] 0: No Transmit, 1: Transmit one by one 2: Transmit periodically

5849	**[Installation Date]**	CTL	
	Displays or prints the installation date of the machine.		
001	Display	The "Counter Clear Day" has been changed to "Installation Date" 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	
003	Total Counter	Displays the total counter when the installation date is registered to the machine.	

5851	**[Bluetooth]**	CTL	
001	Mode	Sets the operation mode for the Bluetooth Unit. Press either key. **0** :Public, 1: Private	

5856	**[Remote ROM Update]**		
	Allows the technician to upgrade the firmware using a parallel cable when updating the remote ROM.		
002	Local Port	CTL	[0 or 1 / **0** / 1/step] **0**: Disallow 1: Allow

5857	**[Debug Log Save]**	CTL	-

001	On/Off	0: OFF, 1: ON
	Switches the debug log feature on and off. The debug log cannot be captured until this feature is switched on.	
006	Save to SD Card	
	Specifies the debug log number for saving to an SD card.	
012	Erase SD Debug	
	Erases SD debug logs in the SD card. Turn off and on after executing this SP.	
013	Dsply-SD Space	
	Displays the remaining space in the SD card.	
014	SD to SD Latest (Latest 4 MB)	
	Saves the debug log (latest 4 MB) in memory to the SD card. A unique file name is generated to avoid overwriting existing file names on the SD card. Up to 4MB can be copied to the SD card. 4 MB segments can be copied one by one to the SD card.	
015	SD to SD Any (Latest 4 MB Any Key)	
	Saves the specified debug log (with SP5-857-006) in memory to the SD card. A unique file name is generated to avoid overwriting existing file names on the SD card. Up to 4MB can be copied to the SD card. 4 MB segments can be copied one by one to the SD card.	
017	Make SD Debug	
	Executes the making of a file (4MB) for saving debug logs.	

5858	**[Debug Log Save: SC]**	CTL	-
	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 the chapter "Trouble Shooting" for a list of SC error codes.		
001	Engine SC	Turns the save function on/off for SC codes generated by copier engine errors. [0 or 1 / **0** / 1/ step]	

		0: OFF, 1: ON
002	Controller SC	Turns the save function on/off for SC codes generated by GW controller errors. [0 or 1 / **0** / 1/ step] 0: OFF, 1: ON
003	Any SC	[0 to 65535 / **0** / 1 /step]
004	Jam	Turns the save function on/off for jam errors. [0 or 1 / **0** / 1/ step] 0: OFF, 1: ON

5859	**[Debug Log Save Key]**	CTL	-
001	Key 1	These SPs allow you to set up to 10 keys for log files for functions that use common memory on the controller board. [–9999999 to 9999999 / **0** / –]	
002	Key 2		
003	Key 3		
004	Key 4		
005	Key 5		
006	Key 6		
007	Key 7		
008	Key 8		
009	Key 9		
010	Key 10		

5860	**[SMTP/POP3/IMAP4]**	CTL	-
020	Partial Mail Receive Timeout	[1 to 168 / **72** / 1 hour/step]	
	Sets the amount of time to wait before saving mail that breaks up during reception. The received mail is discarded if the remaining portion of the mail is not received during this prescribed time.		
021	MDN Response RFC2298 Compliance	[0 to 1 / **1** / –]	
	Determines whether RFC2298 compliance is switched on for MDN reply mail.		

	0: No, 1: Yes	
022	SMTP Auth. From Field Replacement	[0 to 1 / **0** / –]
	Determines whether the FROM item of the mail header is switched to the validated account after the SMTP server is validated. 0: No. "From" item not switched. 1: Yes. "From" item switched.	
025	SMTP Auth. Direct Setting	[0 or 1 / **0** / –]
	Selects the authentication method for SMPT. **Bit switch:** • Bit 0: LOGIN • Bit 1: PLAIN • 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]**		
001	Report Validity	-	[0 or 1 / **0** / –] 0: Enabled, 1: Disabled
	Enables or disables the E-mail alert function.		
005	Add Date Field	CTL	[0 or 1 / **0** / –] 0: Not add, 1: Add
	Adds or does not add the date field to the header of the alert mail.		

5869	**[RAM Disk Setting]**		
001	Mail Function	GWINIT	[0 or 1 / **0** / -] 0: ON, 1: OFF
	Turns on or off the e-mail function.		
002	PDL Storage	GWINIT	[0 to 255 / **4** / 1 /step]
	Specifies the RAM disk storage size for PDL.		

5870	[Common Key Info Writing]		
001	Writing	CTL	Writes to flash ROM the common proof for validating the device for @Remote specifications.
003	Initialize	CTL	Formats the common proof area of the flash ROM. **FA**

5873	[SD Card Appli Move]	
001	Move Exec	This SP copies the application programs from the original SD card in SD card slot 3 to an SD card in 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 / **0** / –] 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 / **0** / -] 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.

5886	[Permit ROM Update] DFU
001	This SP determines whether the ROM can be updated. [0 or 1 / **0** / 1/step] 0: Yes, 1: No

5887	[SD GetCounter] SSP
001	This SP saves the counter list of the machine to an SD card in the slot 3. The folder of "SD_COUNTER" must be made in an SD card for this SP.

5913	[Switch Permission]
002	Print Application Timer
	Sets the length of time to elapse before allowing another application to take control of the display when the application currently controlling the display is not operating because a key has not been pressed. [3 to 30 / **3** / 1 second/step]

5974	[Cherry Server]
001	Selects which version of the Scan Router application program, “Light” or “Full (Professional)”, is installed. [0 to 1 / **0** / 1 /step] 0: Light version (supplied with this machine) 1: Full version (optional)

5985	[Device Setting]	
	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".	
001	On Board NIC	[0 to 2 / **0** / 1 /step] 0: Disable, 1: Enable, 2: Function limitation

		When the "Function limitation" is set, "On board NIC" is limited only for the @Remote or LDAP/NT authentication. **Note** • Other network applications than @Remote or LDAP/NT authentication are not available when this SP is set to "2". Even if you can change the initial settings of those network applications, settings may not actually work.
002	On Board USB	[0 or 1 / **0** / 1/step] 0: Disable, 1: Enable

5990	**[SP Print Mode]**	SMC Print
	In the SP mode, press Copy Window to move to the copy screen, select the paper size, then press Start. Select A4/LT (Sideways) or larger to ensure that all the information prints. Press SP Window to return to the SP mode, select the desired print, and press "EXECUTE".	
001	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 User Program	
022	Scanner SP	
023	Scanner User Program	

5998	Memory Clear
001	See the section "Memory Clear" in this chapter.

SP7-XXX (Data Log)

7401*	**[Counter–SC Total]**	CTL	[0 to 9999 / **0** / 1/step]
001	Displays how many times SC codes are generated.		

7403	**[SC History]**		
001	Latest	CTL	Logs the SC codes detected. The 10 most recently detected SC Codes are displayed on the screen. L: Asset line V: Assert location F: Assert file
002	Latest 1		
003	Latest 2		
004	Latest 3		
005	Latest 4		
006	Latest 5		
007	Latest 6		
008	Latest 7		
009	Latest 8		
010	Latest 9		

7502*	**[Counter–Paper Jam]**	[0 to 9999 / **0** / 1/step]
7502 1	Displays the total number of paper jams.	

7503*	**[Counter–Orgn Jam]**	[0 to 9999 / **0** / 1/step]
7503 1	Displays the total number of original jams,	

7504*	**[Paper Jam/Loc]**	[0 to 9999 / **0** / 1/step]
	Displays the total number of the paper jams classified by timing and location. ☛ "Counter-Each Paper Jam (SP7-504)", in this chapter.	

7505*	**[Original Jam/Loc]**	[0 to 9999 / **0** / 1/step]

	Displays the total number of the original jams on the ADF/ARDF that have occurred at a certain timing or at a certain location. ☛ "Original Jam History Display (SP7-508)", in this chapter.

7506	**[Paper Jam/ Size]** Jam Counter: Paper Size		
7506 5	A4 LEF	CTL	Displays the number of jams according to the paper size. [0 to 9999 / **0** / 1 sheet/step]
7506 6	A5 LEF		
7506 14	B5 LEF		
7506 38	LT LEF		
7506 44	HLT LEF		
7506 132	A3 SEF		
7506 133	A4 SEF		
7506 134	A5 SEF		
7506 141	B4 SEF		
7506 142	B5 SEF		
7506 160	DLT SEF		
7506 164	LG SEF		
7506 166	LT SEF		
7506 172	HLT SEF		
7506 255	Others		

7507*	**[Disply-P Jam Hist]** Display: Paper Jam History	
7507 1	Last	Displays the copy jam history (the most recent 10 jams) Sample Display: CODE:007 SIZE:05h TOTAL:0000334 DATE:DEC 1 09:44/06 2005 where:
7507 2	Latest 1	
7507 3	Latest 2	
7507 4	Latest 3	
7507 5	Latest 4	

7507 6	Latest 5
7507 7	Latest 6
7507 8	Latest 7
7507 9	Latest 8
7507 10	Latest 9

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.

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)	0E	A5 (L)	86	LT (L)	A6
LT (S)	26	B4 (L)	8D	HLT (L)	AC
HLT (S)	2C	B5 (L)	8E	Others	FF

7508*	**[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: **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	
1*	Latest	Sample Display: CODE: 007 SIZE: 05h TOTAL: 0000334 DATE: Mon Mar 15 11:44:50 2000
2*	Latest 1	
3*	Latest 2	
4*	Latest 3	
5*	Latest 4	
6*	Latest 5	
7*	Latest 6	
8*	Latest 7	

9*	Latest 8	
10*	Latest 9	

7801	[Memory/ Version/ PN]		
	Displays the part number and version of all ROMs in the machine.		
7801 255	Memory/ Version/ PN		

7803	[PM Counter]		
	Displays the PM counter for each PM part.		
7803 1	Paper	CTL	[0 to 99999999 / **0** / 1/step]

7804	[PM Count. Reset]		
	Clears the PM counter for each PM part.		
7804 1	Paper	CTL	This clears the counter of SP7803-1.

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).

7826	[MF Error Counter] Japan Only	
	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.

7901	[Assert Info]		
	Records the location where a problem is detected in the program. The data stored in this SP is used for problem analysis. **DFU**		
7901 1	File Name	-	-
7901 2	Number of Lines	-	-
7901 3	Location	-	-

7992*	Reset-Info Count
7992 5	Reset-ID Er Count
	Clears the ID sensor error counter (SP7-991-005).

SP8-XXX (History)

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.	Totals (pages, jobs, etc.) executed for each application when the job was not stored on the document server.
F:	Fax application.	
P:	Print application.	
S:	Scan application.	

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
C	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.
K	Black (YMCK)
LS	Local Storage. Refers to the document server.
LSize	Large (paper) Size
Mag	Magnification
MC	One color (monochrome)
NRS	NRS (@Remote), which allows a service center to monitor machines remotely. "@Remote" 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
PrtPGS	Print Pages

Abbreviation	What it means
R	Red (Toner Remaining). Applies to the wide format model A2 only. This machine is under development and currently not available.
RCG	Remote Communication Gate
Rez	Resolution
SC	Service Code (Error SC code displayed)
Scn	Scan
Sim, Simplex	Simplex, printing on 1 side.
S-to-Email	Scan-to-E-mail
SMC	SMC report printed with SP5990. All of the Group 8 counters are recorded in the SMC report.
Svr	Server
TonEnd	Toner End
TonSave	Toner Save
TXJob	Send, Transmission
YMC	Yellow, Magenta, Cyan
YMCK	Yellow, Magenta, Cyan, Black

Note

- All of the Group 8 SPs are reset with SP5 801 1 Memory All Clear.

8 191	T:Total Scan PGS	CTL	These SPs count the pages scanned by each application that uses the scanner to scan images. [0 to 9999999 / **0** / 1]
8 192	C:Total Scan PGS	CTL	
8 193	F:Total Scan PGS	CTL	
8 195	S: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 / **0** / 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 is not counted. **Note** • These counters are displayed in the SMC Report, and in the User Tools display.		
8 203	F:LSize Scan PGS	CTL	[0 to 9999999 / **0** / 1]
	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 / **0** / 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.		

8 221	ADF Org Feeds	CTL / [0 to 9999999 / **0** / 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/ARDF 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/ARDF 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/ARDF that can scan both sides simultaneously, the Back count is the same as the number of pages fed for duplex scanning. With an ADF/ARDF 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.

8 281	T:Scan PGS/TWAIN	CTL	These SPs count the number of pages scanned using a TWAIN driver. These counters reveal how the TWAIN driver is used for delivery functions. [0 to 9999999 / **0** / 1] **Note** • At the present time, these counters perform identical counts.
8 285	S:Scan PGS/TWAIN	CTL	

8 291	T:Scan PGS/Stamp	CTL
8 293	F:Scan PGS/Stamp	CTL
8 295	S:Scan PGS/Stamp	CTL

These SPs count the number of pages stamped with the stamp in the ADF unit.
[0 to 9999999 / **0** / 1]

8 301	T:Scan PGS/Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by size the total number of pages scanned by all applications. Use these totals to compare original page size (scanning) and output (printing) page size [SP 8-441].		
8 302	C:Scan PGS/Size	CTL	[0 to 9999999 / **0** / 1]
	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].		
8 303	F:Scan PGS/Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by size the total number of pages scanned by the Fax application. Use these totals to compare original page size (scanning) and output page size [SP 8-443].		
8 305	S:Scan PGS/Size	CTL	[0 to 9999999 / **0** / 1]

	These SPs count by size the total number of pages scanned by the Scan application. Use these totals to compare original page size (scanning) and output page size [SP 8-445].	
-001	A3	-
002	A4	
003	A5	
004	B4	
005	B5	
006	DLT	
007	LG	
008	LT	
009	HLT	
010	Full Bleed	
-254	Other (Standard)	
-255	Other (Custom)	

8 381	T:Total PrtPGS	CTL	These SPs count the number of pages printed by the customer. The counter for the application used for storing the pages increments. [0 to 9999999 / **0** / 1]
8 382	C:Total PrtPGS	CTL	
8 383	F:Total PrtPGS	CTL	
8 384	P:Total PrtPGS	CTL	
8 385	S:Total PrtPGS	CTL	
8 387	O:Total PrtPGS	CTL	

- 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 is 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 / **0** / 1]
	These SPs count pages printed on paper sizes A3/DLT and larger. **Note** • In addition to being displayed in the SMC Report, these counters are also displayed in the User Tools display on the copy machine.		

8 411	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. [0 to 9999999 / **0** / 1]

8 421	T:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 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.		
8 422	C:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by binding and combining, and n-Up settings the number of pages processed for printing by the copier application.		
8 423	F:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by binding and combining, and n-Up settings the number of pages processed for printing by the fax application.		
8 424	P:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by binding and combining, and n-Up settings the number of pages processed for printing by the printer application.		
8 425	S:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 1]

	These SPs count by binding and combining, and n-Up settings the number of pages processed for printing by the scanner application.		
8 427	O:PrtPGS/Dup Comb	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by binding and combining, and n-Up settings the number of pages processed for printing by Other applications		
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:

Booklet		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

8 441	T:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by all applications.		
8 442	C:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by the copy application.		
8 443	F:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by the fax application.		
8 444	P:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by the printer application.		
8 445	S:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by the scanner application.		
8 447	O:PrtPGS/Ppr Size	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by print paper size the number of pages printed by Other applications.		
001	A3	-	
002	A4		
003	A5		
004	B4		
005	B5		

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.

8 451	PrtPGS/Ppr Tray	CTL	[0 to 9999999 / **0** / 1]
	These SPs count the number of sheets fed from each paper feed station.		
001	Bypass	Bypass Tray	
002	Tray 1	Copier	
003	Tray 2	Copier	
004	Tray 3	Paper Tray Unit (Option)	
005	Tray 4	Paper Tray Unit (Option)	
006	Tray 5	Currently not used.	
007	Tray 6	Currently not used.	
008	Tray 7	Currently not used.	
009	Tray 8	Currently not used.	
010	Tray 9	Currently not used.	

8 461	T:PrtPGS/Ppr Type	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by paper type the number pages printed by all applications. • 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. • Blank sheets (covers, chapter covers, slip sheets) are also counted.		

	• During duplex printing, pages printed on both sides count as 1, and a page printed on one side counts as 1.		
8 462	C:PrtPGS/Ppr Type	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by paper type the number pages printed by the copy application.		
8 463	F:PrtPGS/Ppr Type	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by paper type the number pages printed by the fax application.		
8 464	P:PrtPGS/Ppr Type	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by paper type the number pages printed by the printer application.		
001	Normal		
002	Recycled		
003	Special		
004	Thick		
005	Normal (Back)		
006	Thick (Back)		
007	OHP		
008	Other		

8 521	T:PrtPGS/FIN	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by all applications.		
8 522	C:PrtPGS/FIN	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Copy application.		
8 523	F:PrtPGS/FIN	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Fax application. **Note** • Print finishing options for received faxes are currently not available.		
8 524	P:PrtPGS/FIN	CTL	[0 to 9999999 / **0** / 1]

	These SPs count by finishing mode the total number of pages printed by the Print application.		
8 525	S:PrtPGS/FIN	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by finishing mode the total number of pages printed by the Scanner application.		
001	Sort		
002	Stack		
003	Staple		
004	Booklet		
005	Z-Fold		
006	Punch		
007	Other		

Note

- If stapling is selected for finishing and the stack is too large for stapling, the unstapled pages are still counted.
- The counts for staple finishing are based on output to the staple tray, so jam recoveries are counted.

8 581	T:Counter	CTL	[0 to 9999999 / **0** / 1]
	This SP counts 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		

8 591	O:Counter	CTL	[0 to 9999999 / **0** / 1]
8 591 1	A3/DLT	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.	
8 591 2	Duplex		

8 601	Cvg Counter	CTL	[0 to 9999999 / **0** / 1]
8 601 1	Cvg: BW %	Displays the total coverage of each mode.	

8 601 11	Cvg: BW Pages	Displays the number of the printouts in each mode.

8 631	T:FAX TX PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the number of pages sent by fax to a telephone number.		
8 633	F:FAX TX PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the number of pages sent by fax to a telephone number.		
001	B/W		

- 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.

8 641	T:IFAX TX PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the number of pages sent by fax to as fax images using I-Fax.		
8 643	F:IFAX TX PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the number of pages sent by Fax as fax images using I-Fax.		
001	B/W		

- 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.

8 651	T:S-to-Email PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the total number of pages attached to an e-mail for both the Scan and document server applications.		
8 655	S:S-to-Email PGS	CTL	[0 to 9999999 / **0** / 1]
	This SP counts by color mode the total number of pages attached to an e-mail for the Scan application only.		
001	B/W		

Note

- The count for B/W and Color pages is done after the document is stored on the HDD. If the job is cancelled before it is stored, the pages are not counted.
- If Scan-to-Email is used to send a 10-page document to 5 addresses, the count is 10 (the pages are sent to the same SMTP server together).
- If Scan-to-PC is used to send a 10-page document to 5 folders, the count is 50 (the document is sent to each destination of the SMB/FTP server).
- Due to restrictions on some devices, if Scan-to-Email is used to send a 10-page document to a large number of destinations, the count may be divided and counted separately. For example, if a 10-page document is sent to 200 addresses, the count is 10 for the first 100 destinations and the count is also 10 for the second 100 destinations, for a total of 20.).

8 661	T:Deliv PGS/Svr	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by both Scan and LS applications.		
8 665	S:Deliv PGS/Svr	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent to a Scan Router server by the Scan application.		
001	B/W		

Note

- The B/W and Color counts are done after the document is stored on the HDD of the Scan Router server.
- If the job is canceled before storage on the Scan Router server finishes, the count is not done.
- The count is executed even if there is confirmation of the arrival at the Scan Router server.

8 671	T:Deliv PGS/PC	CTL	[0 to 9999999/ **0** / 1]
	These SPs count by color mode the total number of pages sent to a folder on a PC (Scan-to-PC) with the Scan and LS applications.		
8 675	S:Deliv PGS/PC	CTL	[0 to 9999999 / **0** / 1]
	These SPs count by color mode the total number of pages sent with Scan-to-PC with the Scan application.		
001	B/W		

Note

- Print jobs done with Web Image Monitor and Desk Top Binder are added to the count.
- If several documents are merged for sending, the number of pages stored are counted for the application that stored them.
- When several documents are sent by a Fax broadcast, the F: count is done for the number of pages sent to each destination.

8 681	T:PCFAX TXPGS	CTL	These SPs count the number of pages sent by PC Fax. These SPs are provided for the Fax application only, so the counts for SP8-681 and SP8-683 are the same. [0 to 9999999 / **0** / 1]
8 683	F:PCFAX TXPGS	CTL	

- 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.)

8 701	TX PGS/Port	CTL	[0 to 9999999 / **0** / 1]
	These SPs count the number of pages sent by the physical port used to send them. For example, if a 3-page original is sent to 4 destinations via ISDN G4, the count for ISDN (G3, G4) is 12.		
8 701 1	PSTN-1	-	
8 701 2	PSTN-2	-	
8 701 3	PSTN-3	-	
8 701 4	ISDN (G3,G4)	-	

8 701 5	Network	-

8 711	T:Scan PGS/Comp	CTL	[0 to 9999999 / **0** / 1]
8 715	S:Scan PGS/Comp	CTL	[0 to 9999999 / **0** / 1]
	These SPs count the number of pages sent by each compression mode.		
-001	JPEG/JPEG2000	-	
-002	TIFF M/S (Multi/ Single)	-	
003	PDF	-	
-004	Other	-	

8 771	Dev Counter	CTL	[0 to 9999999 / **0** / 1]
	This SP counts the total number of developed images.		
8 771 1	Total	-	

8 781	Toner Botol Info.	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of already replaced toner cartridges.		
8 781 1	BK	The number of black toner cartridges	

8 801	Toner Remain	CTL	[0 to 100 / **0** / 1]
	This SP displays the percent of toner remaining for each color. This SP allows the user to check the toner supply at any time. **Note** • This precise method of measuring remaining toner supply (1% steps) is better than other machines on the market that can only measure in increments of 10 (10% steps).		
8 801 1	K		

8 851	Cvr Cnt:0-10%	*BCU	[0 to 9999999 / **0** / 1]

	These SPs display the number of scanned sheets on which the coverage of each color is from 0% to 10%.
8 851 11	0-2%:Bk
8 851 21	3-4%: Bk
8 851 31	5-7%: Bk
8 851 41	8-10%: Bk

8 861	Cvr Cnt: 11-20%	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of scanned sheets on which the coverage of each color is from 11% to 20%.		
8 851 1	BK		

8 871	Cvr Cnt: 21-30%	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of scanned sheets on which the coverage of each color is from 21% to 30%.		
8 871 1	BK		

8 881	Cvr Cnt: 31%-	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of scanned sheets on which the coverage of each color is 31% or higher.		
8 881 1	BK		

8 891	Page/Toner Bottle	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of sheets output by the scan application.		
8 891 1	BK		

8 901	Page/Toner k Prev1	*BCU	[0 to 9999999/ **0** / 1]
	This SP displays the number of sheets output by the scan application with the previously replaced units.		
8 901 1	BK		

8 911	Page/Toner Prev2	*BCU	[0 to 9999999 / **0** / 1]
	This SP displays the number of sheets output by the scan application with the unit replaced before the previously replaced unit (two steps back from the current unit).		
8 911 1	BK		

8 921	Cvr Cnt/Total	*BCU	[0 to 9999999 / **0** / 1]
8 921 1	Coverage(%): BK	These SPs display the total coverage percentage of sheets output by the machine.	
8 921 11	Covwerage/P: Bk	These SPs display the total coverage pages output by the machine.	

8 941	Machine Status	CTL	[0 to 9999999 / **0** / 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 of their compliance with ISO Standards.		
8 941 1	Operation Time	Engine operation time. Does not include time while controller is saving data to HDD (while engine is not operating).	
8 941 2	Standby Time	Engine not operating. Includes time while controller saves data to HDD. Does not include time spent in Energy Save, Low Power, or Off modes.	
8 941 3	Energy Save Time	Includes time while the machine is performing background printing.	
8 941 4	Low Power Time	Includes time in Energy Save mode with Engine on. Includes time while machine is performing background printing.	
8 941 5	Off Mode Time	Includes time while machine is performing background printing. Does not include time machine remains powered off with the power switches.	
8 941 6	SC	Total down time due to SC errors.	
8 941 7	PrtJam	Total down time due to paper jams during printing.	
8 941 8	OrgJam	Total down time due to original jams during scanning.	
8 941 9	Spl PM Unit End	Total down time due to toner end.	

8 999	AdominCounter	CTL	[0 to 9999999 / **0** / 1]
	Displays the user setting counter for administrator.		
8 999 1	Total	-	
8 999 3	Copy: BW	-	
8 999 7	Printer: BW	-	
8 999 10	FaxP: BW	-	
8 999 12	A3/DLT	-	
8 999 13	Duplex	-	
8 999 15	Cvr: BW %	-	
8 999 17	Cvr: BW Pages	-	
8 999 102	SendTtl: BW	-	
8 999 103	FaxSend	-	
8 999 105	FaxSend: BW	-	

Printer Service Mode

Service Mode Table

SP No.	Description	Function and Setting
1001	BitSw#1 Set	Adjusts bit switch settings. **Note:** Currently the bit switches are not being used.
1003	Clear Setting	Not used
1004	Print Summary	Prints the service summary sheet (An error log is printed in addition to the configuration page).
1005	Display Version	Displays the version of the controller firmware.

SP Modes Related to Printer Controller

The following SP modes are located in the copier SP mode. Refer to section 5.1 of the main unit service manual.

SP No.	Description	Function and Setting
5104	A3/DLT Double Count	Specifies whether the counter is doubled for A3/DLT. 0: No, 1: Yes If ① is selected, the total counter and the current user code counter count up twice when A3 or DLT paper is used.
5801	Memory All Clear	Resets data for process control and all software counters, and returns all modes and adjustments to their defaults values. ☛ section "Memory Clear" in this chapter for details.
5907	Plug & Play	Selects the brand name and the production name for Windows Plug & Play. This information is stored in NVRAM.
7832	Detailed Display of Self-Diagnostics	Displays the controller self-diagnostic result.

Scanner Service Mode

Scanner Program Mode Table

Service Table Key

Notation	What it means
[range / **default** / step]	Example: [-9 to +9 / **+3.0** / 0.1 mm step]. The setting can be adjusted in the range ±9, value reset to +3.0 after an NVRAM reset, and the value can be changed in 0.1 mm steps with each key press.
italics	Comments added for your reference.
*	This value is stored in NVRAM. After a RAM reset, the default value (factory setting) is restored.
DFU	Denotes "Design or Factory Use". Do not change this value.

SP1	Mode Number		Function and [Setting]
1004*	1	Compression Type	Selects the compression type for binary picture processing. [1: MH, 2: MR, **3: MMR**]
1005*	1	Erase Margin	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. [0 to 5 / **0mm** / 1mm step]

For the settings of the image quality, see the copier SP-mode table.

Using SP Mode

Memory Clear

GW Machine

The GW machine (the machine with the optional controller box) stores the engine data in the NVRAM on the BICU, and stores the other data in the NVRAM on the optional controller. To distinguish between the engine data and the other data, see SP5-801-003 through 019. This service program (SP5-801) handles the controller data. Any data that is not handled by SP5-801 is the engine data. The data in the BICU NVRAM (engine data) is cleared by SP5-998-001 while the data in the controller NVRAM (controller data) is cleared by SP5-801-xxx (for exceptions, see "").

Machine	Data	NVRAM	Cleared by	Remarks
GW	Engine data	BICU	SP5-998-001	Any data other than controller data
	Controller data	Controller	SP5-801-xxx	SCS, IMH, MCS, Copier application, Fax application, Printer application, Scanner application, Web service/ network application, NCS, R-Fax, DCS, UCS

Exceptions

SP5-998-001 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:

SP5-807 (Area Selection)

SP5-811-001 (Serial Num Input [Code Set])

SP5-811-003 (Serial Num Input [ID2 Code Display])

SP5-812-001 (Service TEL [Telephone])

SP5-812-002 (Service TEL [Facsimile])

SP5-907 (Plug & Play)

SP7 (Data Log)

SP8 (History)

Use SP5-998-001 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 SP5-801-001. The message is the same as the basic machine.

Memory Clear Procedure

1. Print out all SMC data lists (☛ "SMC Print").
2. Do SP5-998-001.
3. Press the OK key.
4. Select "Execute." The messages "Execute?" followed by "Cancel" and "Execute" are displayed.
5. Select "Execute."
6. When the program has ended normally, the message "Completed" is displayed. If the program has ended abnormally, an error message is displayed.
7. Turn the main switch off and on.
8. Adjust the printer and scanner registration and magnification (☛ "Copy Adjustment" in the chapter "Replacement and Adjustment").
9. Refer to the SMC lists, and enter any values that differ from the factory settings. Double-check the values for SP4-901.
10. Adjust the standard white level (SP4-428).
11. Initialize the TD sensor (SP 2-214).
12. Check the copy quality and the paper path.

Serial Number Input (SP5-811)

Specifying Characters

SP5-811-001 specifies the serial number. For the machine with the optional controller, you use the numeric keypad and the optional operation panel.

GW Machine

You can use the numeric keypad to type numbers. In addition, you can use the operation panel to type other characters. When you press the "ABC" key, the letter changes as follows: A → B → C. To input the same letter two times, for example "AA," you press the "ABC" key, the "Space" key, and the "ABC" key. To switch between uppercase letters and lowercase letters, press the "Shift" key.

Serial Number and NVRAM

Serial numbers are stored in the NVRAM before shipment and are not cleared. You must specify a serial number after you replace the NVRAM.

SMC Print (SP5-990)

SP5-990 outputs machine status lists.

1. Select SP5-990.
2. Select a menu:
    - GW machine: 001 All (Data List), 002 SP (Mode Data List), 003 User Program, 004 Logging Data, 005 Diagnostic Report, 006 Non-Default, 007 NIB Summary, 008 Net File Log, 021 Copier User Program, 022 Scanner SP, 023 Scanner User Program, 040 Parts Alarm Counter Print, 064 Normal Count Print, 065 User Code Counter, 066 Key Operator Counter, 067 Contact List Print, 069 Heading1 print, 071 Heading3 print, 072 Group List Print, 128 ACC Pattern, 129 User Color Pattern, or 160:ACC Pattern Scan

    Note

    - The output given by the menu "Big Font" is suitable for faxing.
3. Press the "Execute" key.
    - GW machine: The machine status list is output.
4. To return to the SP mode, press the key.

Counter–Each Paper Jam (SP7-504)

The table lists the menu numbers (the last three digits of SP7-504-XXX) and the paper jam timings and locations.

Code	
001	Paper jam occurs at power on.
010	Paper does not reach the registration sensor (from a paper tray).
011	Paper does not reach the relay sensor.
012	Paper is caught at the relay sensor.
021	Paper does not reach the vertical transport sensor.
022	Paper is caught at the vertical transport sensor.

031	Paper does not reach the vertical transport sensor in the optional paper feed unit.
032	Paper is caught at the vertical transport sensor in the optional paper feed unit.
050	Paper does not reach the registration sensor (from the by-pass tray).
060	Paper does not reach the registration sensor during reverse-side printing (for duplex printing).
070	Paper is caught at the registration sensor.
120	Paper is caught at the exit sensor (previous page).
121	Paper does not reach the exit sensor.
122	Paper is caught at the exit sensor.
123	Paper does not reach the duplex inverter sensor (from the registration roller).
125	Paper is caught at the duplex inverter sensor.
126	Paper does not reach the duplex entrance sensor.
127	Paper is caught at the duplex entrance sensor.
128	Paper does not reach the duplex exit sensor.
129	Paper is caught at the duplex exit sensor.
130	Paper does not reach the one-bin tray.
131	Paper is caught at the one-bin tray.

Original Jam History Display (SP7-508)

Viewing the Copy Jam History

You can view the information for the most recent 10 events. The information on older events is deleted automatically.

Note

- The information on jam history is saved in the NVRAM.

1. Select SP7-508.
2. Select one of the menu items ("Latest 1" through Latest 10").
3. Press the OK key. The summary of the jam history is displayed.

4. To view more information, select "Detail."

Jam History Code

Code	Meaning
210	Original does not reach the registration sensor.
211	Original caught at the registration sensor.
212	Original does not reach the original exit sensor.
213	Original caught at the original exit sensor.
214	Original does not reach the original reverse sensor.
215	Original caught at the original reverse sensor.

Firmware Update Procedure

This section illustrates how to update the firmware of the GW machine (the machine with the optional controller box).

To update the firmware for the GW machine, you must have the new version of the firmware downloaded onto an SD (Secure Digital) Card. The SD Card is inserted into the uppermost slot on the right side of the controller box, viewed from the back of the machine.

Before You Begin...

An SD card is a precision device, so always observe the following precautions when handling SD cards:

- Always switch the machine off before inserting an SD card. Never insert the SD card into the slot with the power on.
- When the power is switched on, never remove the SD card from the service slot.
- Never switch the machine off while the firmware is downloading from the SD card.
- Store SD cards in a safe location where they are not exposed high temperature, high humidity, or exposure to direct sunlight.
- Always handle SD cards with care to avoid bending or scratching them. Never drop an SD card or expose it to other shock or vibration.

Keep the following points in mind while you are using the firmware update software:

- "Upload" means to send data from the machine to the SD card, and "download" means to send data from the SD card to the machine.

- To select an item on the LCD screen, press the appropriate key on the operation panel, or press the appropriate number key on the 10-key pad of the operation panel.
- Before starting the firmware update procedure, always make sure that the machine is disconnected from the network to prevent a print job for arriving while the firmware update is in progress.

Firmware Update Procedure

Note

- Before beginning the following, first confirm which firmware version(s) are currently installed in the machine with SP7-801-255.

SD Card Preparation

1. Format an SD card with, for example, SD Formatter v1.1.
1. Create a "romdata" folder on the card.
2. Create the following folders within the "romdata" folder: B245, B268, B276, B277, etc.
3. Download the firmware from the server and store the files in the folder with the corresponding model code on the SD card.

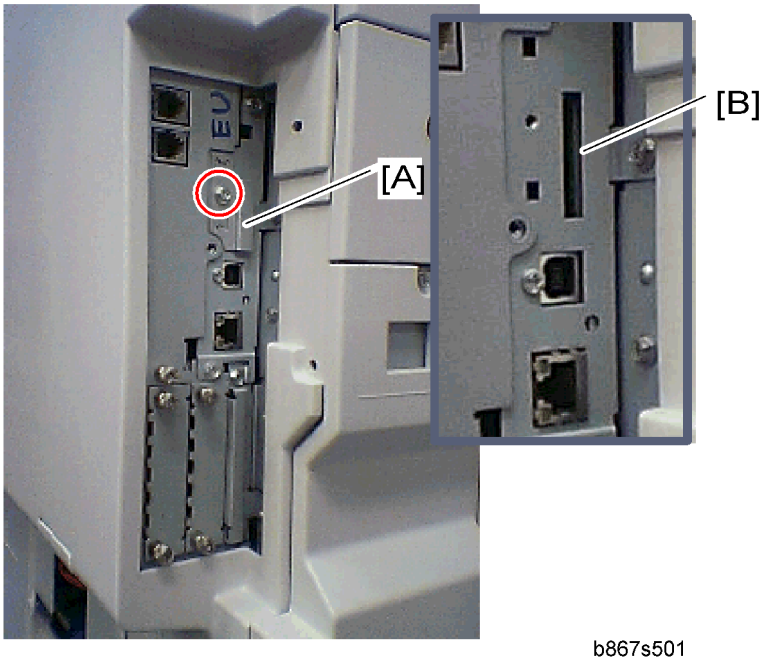
   Example:

   File B2455540B should be stored in the "B245" folder, whereas files B6585902B, B6585903B, and B6585905B should be stored in the "B658" folder.

Firmware Update

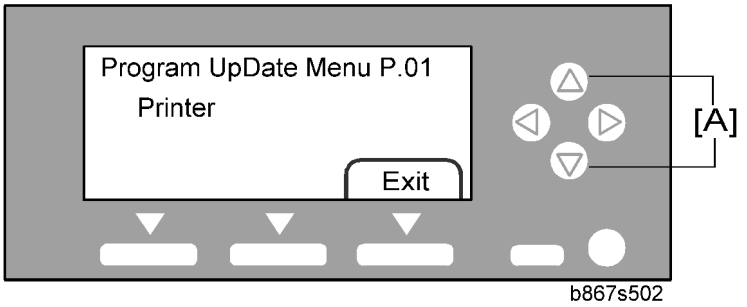
Note

- It is strongly recommended to store only B245/B276/B277 files on SD cards used for downloading to B245/B276/B277. With the controller used on this model, a firmware update may sometimes be interrupted if there is software for multiple models stored on the same SD card.



b867s501

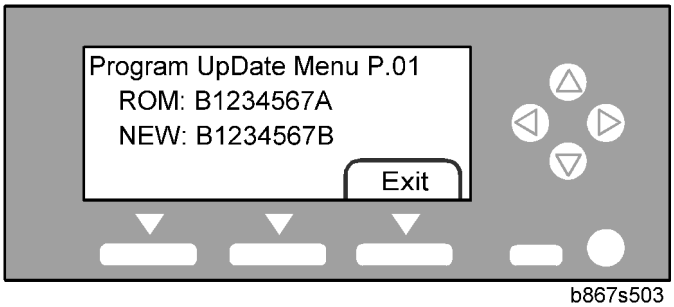
1. Turn off the main power switch.
1. If the machine is connected to a network, disconnect the network cable from the copier.
2. Remove the slot cover [A] (x 1)
3. With the label on the SD card facing the rear side of the machine, insert the SD card into the upper slot [B] on the controller box. Slowly push the SD card into the slot so it locks in place.
4. Make sure the SD card is locked in place.
   (To remove the SD card, push it in to unlock the spring lock and then release it so it pops out of the slot.)
5. Switch the main power switch on. After about 5 seconds, the LCD will display "Please wait..." Then, about 60 seconds later, the LCD will display "Program UpDate Menu P.01" on the first line and the name of the firmware on the second line (e.g. System/Copy).



b867s502

6. Press the "OK" key to select a module.

- To scroll through the menus, press the △ or ▽ keys [A].



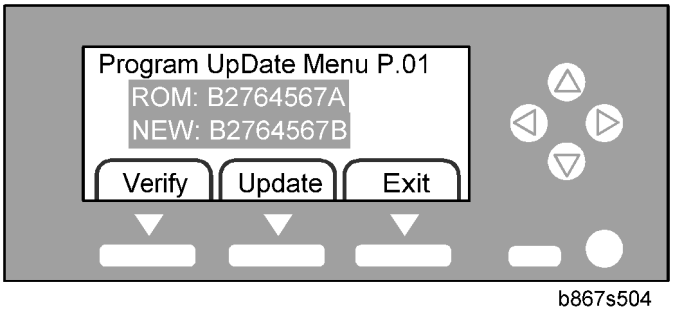
b867s503

- To view the firmware version, press the right key. "ROM" is the information on the current firmware. "NEW" is the information on the firmware in the SD card.
- To return to the menu, press the ◁ key.
- To select the module, press the OK key.
- To scroll through the module name, the serial number, and the version, press the ◁ key or ▷ key.
- If you wish to install the following firmware simultaneously, press the START key. The scroll keys can be used to confirm that this firmware has been selected (highlighted with a dark background).

  [Engine, FCU, Scanner, Printer, Printer Font, Security Module]

  Important

  - **Please note that the following firmware cannot be updated simultaneously. The update procedure must be repeated for each individually.**
  - **System/Copy, ServiceCardNetFile, ServiceCardNIB, ServiceCardFAX, ServiceCardWebSystem.**



b867s504

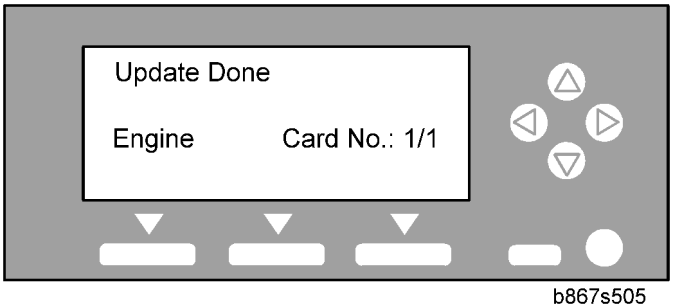
- When you have selected a module, the text lines are highlighted, and the "Verify" key and the "Update" key are displayed.

7. Select a module and press the "Update" key.

   Important

   - **Do NOT press the "Verify" key.**

8. The firmware update program starts and the message "Loading" is displayed.
    - The update will begin, and then will take a few minutes to complete. The LCD will initially display, "Updating... ***---------".
    - When the update is completed, the LCD display will change to "Update done" or "Updated / Power Off On".

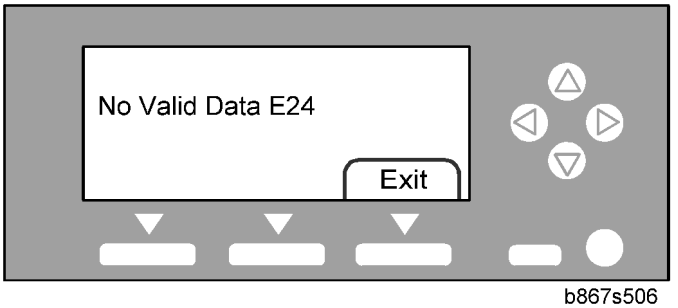


b867s505

9. Check that the message "Update Done" is displayed.

Confirmation

1. Turn the main power switch off and on.
    - The LCD will display "Please wait..." for about 60 seconds, after which it will return to the "Program UpDate Menu" screen.
2. Repeat Steps 1-8 above until all firmware updates are complete.
3. Turn the main power switch off.
4. Remove the SD card from the lower slot on the controller by pushing on the card to release the spring lock.



b867s506

If an error occurs, the error code is displayed. For a list of information on error codes, see the following table.

Code	Cause	Necessary Action
E20	Physical address mapping error	• Insert the SD card correctly. • Use another SD card
E22	Decompression error	• Store correct data in the SD card.
E23	Update program error	• Update controller program. • Replace the controller.
E24	SD card access error	• Insert the SD card correctly. • Use another SD card.
E31	Download data inconsistency*	• Insert the SD card that was used when the previous update procedure is interrupted.
E32	Download data inconsistency*	• Insert the SD card that stores the correct data.
E33	Version data error	• Store the correct data in the SD card.
E34	Locale data error	• Store the correct data in the SD card.
E35	Machine model data error	• Store the correct data in the SD card.
E36	Module data error	• Store the correct data in the SD card.
E40	Engine program error**	• Store the correct data in the SD card. • Replace BICU.
E42	Operation panel program error*	• Store the correct data in the SD card. • Replace the operation panel board.
E44	Controller program error*	• Store the correct data in the SD card. • Replace the controller board.
E50	Authentication error	• Store the correct data in the SD card.

*You need to reinstall the program.

If the firmware update program is interrupted (for example, by a power failure), keep the SD card inserted and turn the mains switch off and on. The firmware update program restarts. If you do not do so, the message "Reboot after Card insert" is displayed when you turn the main switch on.

NVRAM Data Upload/Download

Uploading Content of NVRAM to an SD card

Follow this procedure to upload SP code settings from NVRAM to an SD card.

Note

- This data should always be uploaded to an SD card before the NVRAM is replaced.

1. Before switching the machine off, execute SP 5990-1 (SMC Print). You will need a record of the NVRAM settings if the upload fails.
2. Turn off the main power of the copier.
3. Remove the slot cover 3 (uppermost one) (x 1).
4. Insert the SD card into the service slot 3 (uppermost one), then turn on the main power of the copier.
5. Execute SP 5824-1 (NVRAM Data Upload) then press the "Execute" key.
    - When uploading is finished, a file is coped to an NVRAM folder on the SD card. The file is saved to the path and filename:

      NVRAM\<serial number>.NV

      Here is an example with Serial Number "B0700017":

      NVRAM\B0700017.NV
6. In order to prevent an error during the download, be sure to mark the SD card that holds the uploaded (saved) data with the number of the machine from which the data was uploaded (saved).

    Note

    - NVRAM data from more than one machine can be uploaded (saved) to the same SD card.
1. Turn off the main power, and then remove the SD card from the slot 3 (the uppermost one).
2. Reassemble the machine.

Downloading an SD Card to NVRAM

Follow this procedure to download (save) SP data from an SD card to the NVRAM in the machine.

- If the SD card with the NVRAM data is damaged, or if the connection between the controller and BICU is defective, the NVRAM data download may fail.
- If the download fails, repeat the download procedure.
- If the second attempt fails, enter the NVRAM data manually using the SMC print you created before uploading the NVRAM data. (☛ above procedure)

1. Turn off the main power of the copier.
2. Remove the slot cover 3 (the uppermost one) (x 1).

1. Insert the SD card with the NVRAM data into the service slot 3 (the uppermost one).
2. Turn on the main power of the copier.
3. Execute SP 5825-1 (NVRAM Data Download) and press the "Execute" key.
4. Turn off the main power of the copier, and then remove the SD card from the slot 3 (the uppermost one).
5. Reassemble the machine.

Note

- In order for the NVRAM data to download successfully, the serial number of the file on the SD card must match the serial number of the machine. If the serial numbers do not match, the download will fail.

This procedure downloads (saves) the following data to the NVRAM:

- Total Count
- C/O, P/O Count

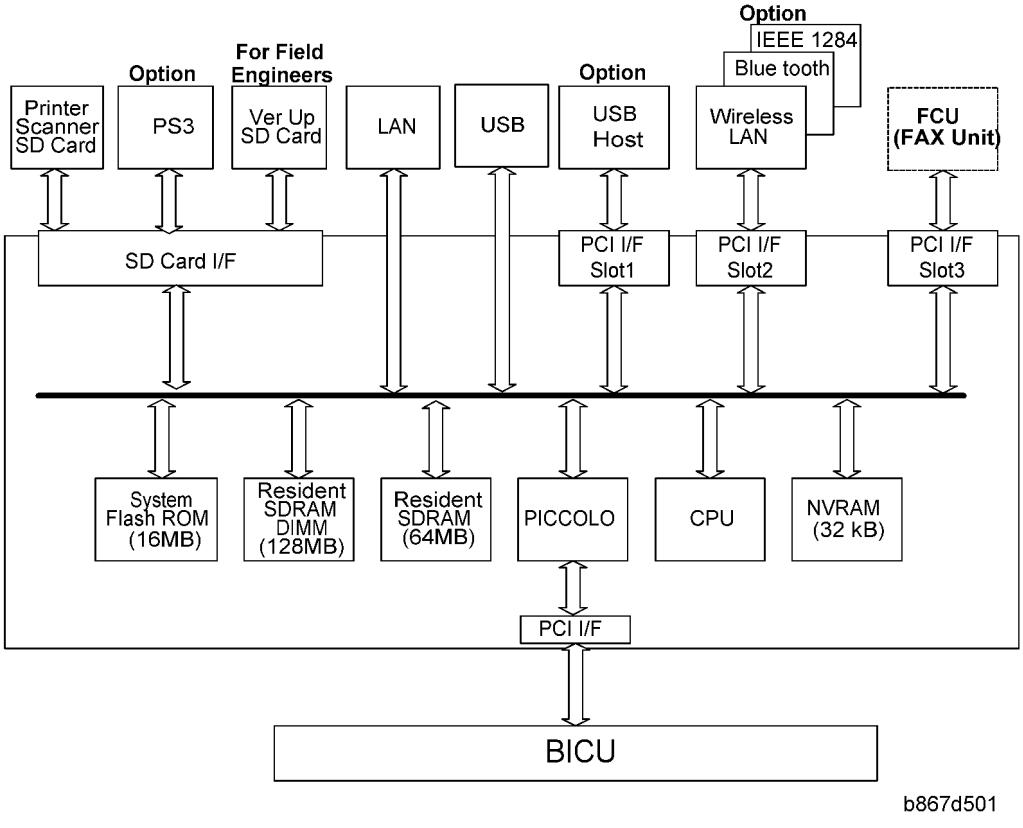
Power-on Self Test

The controller tests the following devices at power-on. If an error is detected, an error code is stored in the controller board.

- CPU, ASIC and clock
- Flash ROM
- Resident and optional SDRAM
- NVRAM
- PS fonts (if installed)

5. Detailed Section Descriptions

Overview



This machine uses the GW architecture. To enable printer features, install the printer option SD Card in the controller.

Main components:

- CPU: TOSHIBA TMPR4955BFG-300
- PICCOLO: GW architecture ASIC. It controls all the functions of the controller board.
- Flash ROM: 16 MB Flash ROM for the system program
- SDRAM: On board 64 MB, DIMM 128 MB (resident)
- NVRAM: Stores the controller settings
- LAN interface
- USB 2.0 interface
- SD Card: Printer/Scanner program

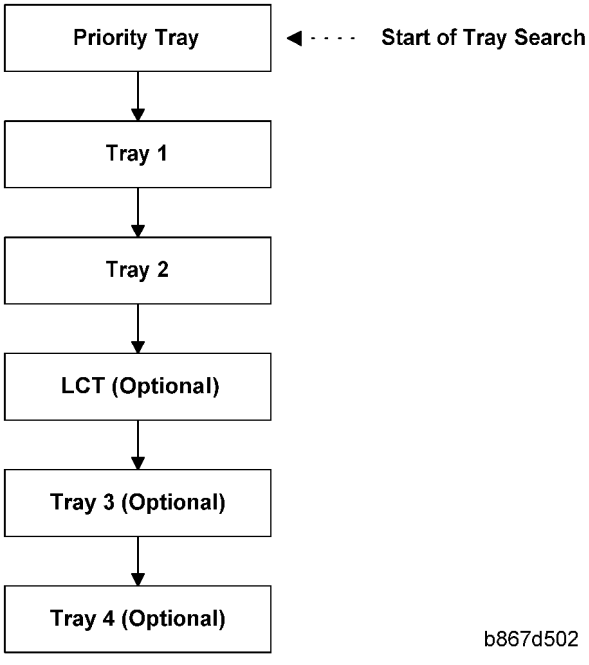
Optional components:

- PostScript3
- Bluetooth interface
- Wireless LAN interface
- IEEE1284 interface
- USB Host

Controller Functions

Paper Source Selection

Tray Priority (Auto Tray Select)



The Tray Priority setting determines the start of the tray search when the user selects "Auto Tray Select" with the driver.
The machine searches for a paper tray with the specified paper size and type.

When no tray contains paper that matches the paper size and type specified by the driver, the controller stops printing until the user loads the correct paper.

The Tray Priority setting can be specified using the Paper Size Setting in the user tools.

(User Tools/ System Settings/ Paper Size Settings)

Note

- The by-pass tray is not part of the tray search.

Tray Lock

If Tray Lock is enabled for a tray, the controller skips the "locked" tray in the tray search process.

The Tray Lock setting can be specified by selecting "No" for the "Apply Auto Paper Select" setting in the Paper Size Setting screen in the user tools.
(User Tools/ System Settings/ Paper Size Settings)

Note

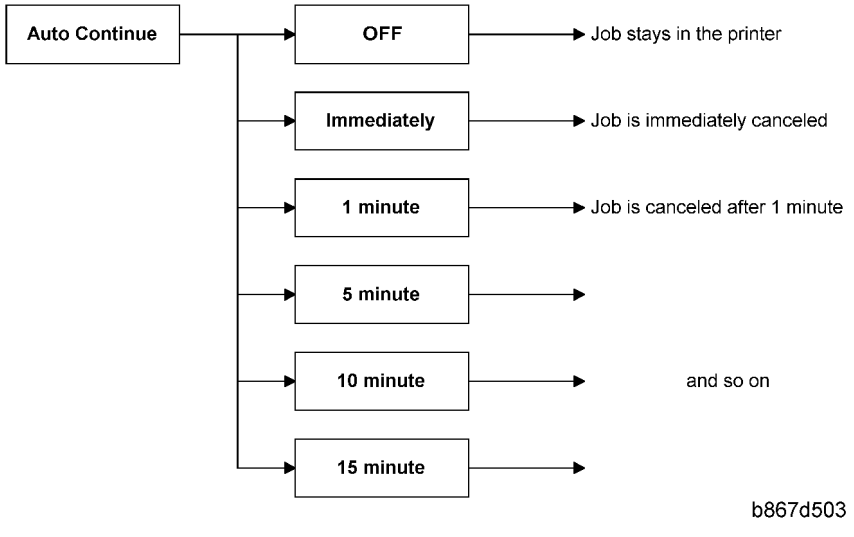
- The by-pass feeder cannot be locked.

Manual Tray Select

If the selected tray does not have the paper size and type specified by the driver, the controller stops printing until the user loads the correct paper.

Auto Continue

If no paper tray matches the paper size and paper type specified by the driver:



When this function is enabled, the machine stops printing and cancels the print job if there is no paper tray which matches the paper size and paper type specified by the driver.

If Auto Continue is enabled, the machine waits for a specified period (0, 1, 5, 10, 15 minutes) for the correct size paper to be set in the tray, then cancels the print job if the interval expires.

- The interval can be set via Printer Settings in the user tools.

  (User Tools/ Printer Settings/ System/ Auto Continue)

If Auto Continue is disabled, the machine will not print the job, but will not cancel it, so the job stays in the print queue.

Note

- The default setting for Auto Continue is "Off."

Paper Output Tray

The default paper output tray for each application (copy/fax/printer) can be selected using the System Settings menu within User Tools.
(User Tools/ System Settings/ General Features)

If a print job does not specify an output tray or if the driver specifies the default tray, the default paper output tray is used.

Output Tray Selected

- If an output tray is specified by the driver, it overrides the default tray setting in User Tools.
- If the machine cannot print to the selected output tray, it prints to the default paper output tray.
- If the mailbox unit is installed, paper larger than B4 cannot be output to the standard (internal) tray.
- If paper overflow is detected at the selected output tray, the controller stops printing until the overflow detector indicates that the tray is no longer full.

Sequential Stacking

When the nine-tray mailbox is selected as the output tray and "Printer Default" is specified as the output tray in the driver, the machine automatically sends the output to the top tray (1st tray). When that tray fills up, the machine sends the output to the next tray.
This feature is called "Sequential Stacking."

- If a tray becomes full and the next tray is also full, the machine displays an error and stops printing. When the paper in the next tray is removed, the machine automatically resumes printing to the next tray.
- If all trays become full (overflow detected in all trays), the machine displays an error and stops printing. This time, all paper in all trays must be removed.

Duplex Printing

Duplex printing is available with all output bin options but not all paper sizes. If a job specifies duplex printing but the paper size to be used cannot be used by the duplex unit, the job will be printed single-sided.

- When the by-pass feeder is selected as the paper source, duplex printing is automatically disabled.

Scanner Functions

Image processing for scanner mode

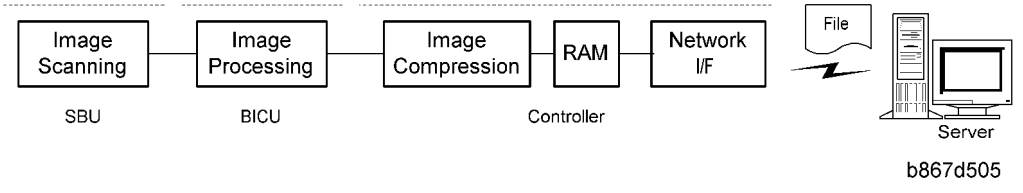
The image processing for scanner mode is done in the IPU chip on the BICU board. The IPU chip chooses the most suitable image processing methods (gamma tables, dither patterns, etc) depending on the settings made in the driver.

The image compression method can be selected with SP mode (MR/MH/MMR for binary picture processing).

Whether the user selects the image mode using the driver (TWAIN mode) or from the operation panel (Delivery mode), the IPU chip does the image processing using the appropriate image processing methods mentioned above.

Image Data Path

1. Image Store/Image Delivery Mode



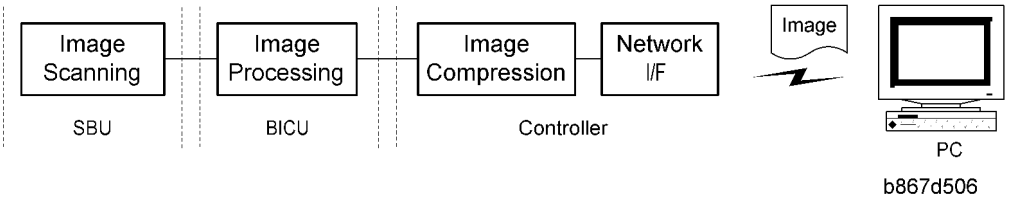
The user can select the following modes from the LCD.

- Delivery only

After image processing and image compression, all image data for the job are stored in the printer controller RAM using TIFF file or PDF file format (binary picture processing). The type of file format used depends on the user's scanner settings.

When the delivery mode is selected, the controller creates a file which contains the destination and page information, and then the controller sends the file to a server.

2. Twain Mode

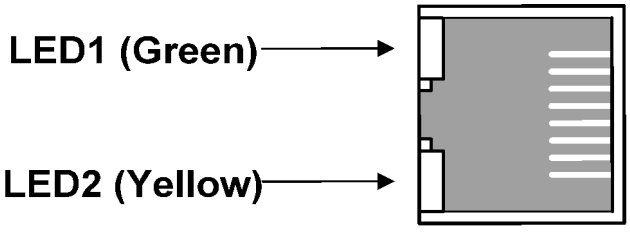


After image processing and image compression, the data (TIFF or PDF) is sent to the scanner Twain driver directory on the computer.

Network Interface

LED Indicators

The LEDs are on the optional controller box.



Description	On	Off
LED1 (Green): Link status	Link success	Link failure
LED2 (Yellow): Data rate	100 Mbps	10 Mbps

IEEE 802.11b (Wireless LAN)

Specifications

The IEEE 802.11b wireless LAN interface card is available as an option for this machine.

A wireless LAN is a flexible data communication system used to extend or replace a wired LAN. Wireless LAN employs radio frequency technology to transmit and receive data over the air and minimize the need for wired connections.

- With wireless LANs, users can access information on a network without looking for a place to plug into the network.
- Network managers can set up or expand networks without installing or moving wires.
- Most wireless LANs can be integrated into existing wired networks. Once installed, the network treats wireless nodes like any other physically wired network component.
- Flexibility and mobility make wireless LANs both effective extensions of and attractive alternatives to wired networks.

Standard applied:	IEEE802.11b	
Data transmission rates:	Speed	Distance
	11 Mbps	140 m (153 yd.)
	5.5 Mbps	200 m (219 yd.)
	2 Mbps	270 m (295 yd.)
	1 Mbps	400 m (437 yd.)
Network protocols:	TCP/IP, Apple Talk, NetBEUI, IPX/SPX	
Bandwidth:	2.4GHz (divided over 14 channels, 2400 to 2497 MHz for each channel)	

Note

- The wireless LAN cannot be active at the same time as the Ethernet LAN. The following user tool setting determines which LAN is active: System Settings - Interface Settings - Network - LAN Type.

LED Indicators

LED	Description	ON	OFF

LED 1 (Green)	Link Status	Linked	No Link
LED 2 (Orange)	Power Distribution	Power On	Power Off

Transmission Modes

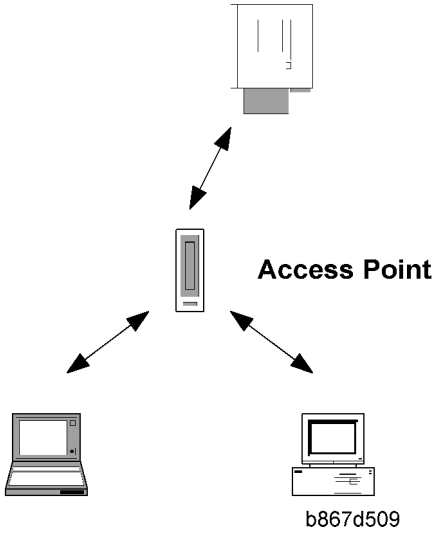
Wireless communication has two modes: 1) ad hoc mode, and 2) infrastructure mode.

Ad Hoc Mode

The ad hoc mode allows communication between each device (station) in a simple peer-to-peer network. In this mode, all devices must use the same channel to communicate. In this machine, the default transmission mode is ad hoc mode and the default channel is 11. First, set up the machine in ad hoc mode and program the necessary settings, even if the machine will be used in the infrastructure mode.

To switch between ad hoc and infrastructure modes, use the following user tool: Host Interface Menu - IEEE802.11b - Comm Mode

Infrastructure Mode



The infrastructure mode allows communication between each computer and the printer via an access point equipped with an antenna and wired into the network. This arrangement is used in more complex topologies. The wireless LAN client must use the same SSID (Service Set ID) as the access point in order to communicate.

Security Features

SSID (Service Set ID)

The SSID is used by the access point to recognize the client and allow access to the network. Only clients that share the same SSID with the access point can access the network.

Note

- If the SSID is not set, clients connect to the nearest access point.
- The SSID can be set using the web status monitor or telnet.

Using the SSID in Ad hoc mode

When the SSID is used in ad hoc mode and nothing is set, the machine automatically uses "ASSID" as the SSID. In such a case, "ASSID" must also be set at the client.

Note

- SSID in ad hoc mode is sometimes called "Network Name."

Some devices automatically change from ad hoc mode to infrastructure mode when the same SSID is used in ad hoc mode and infrastructure mode. In such a case, to use the device in ad hoc mode, use a specified SSID in infrastructure mode and use "ASSID" in the ad hoc mode.

WEP (Wired Equivalent Privacy):

WEP is a coding system designed to protect wireless data transmission. In order to unlock encoded data, the same WEP key is required on the receiving side. There are 64 bit and 128 bit WEP keys. However, this machine supports only 64 bit WEP.

Note

- The WEP key can be set using the Web Status Monitor or Telnet.

MAC Address:

When the infrastructure mode is used, access to the network can also be limited at the access points using the MAC address. This setting may not be available with some types of access points.

Wireless LAN Troubleshooting Notes

Communication Status

Wireless LAN communication status can be checked with the UP mode "W.LAN Signal" in the Maintenance menu. This can also be checked using the Web Status Monitor or Telnet.

The status is described on a simple number scale.

Status Display	Communication Status
Good	76 ~ 100
Fair	41 ~ 75
Poor	21 ~ 40
Unavailable	0 ~ 20

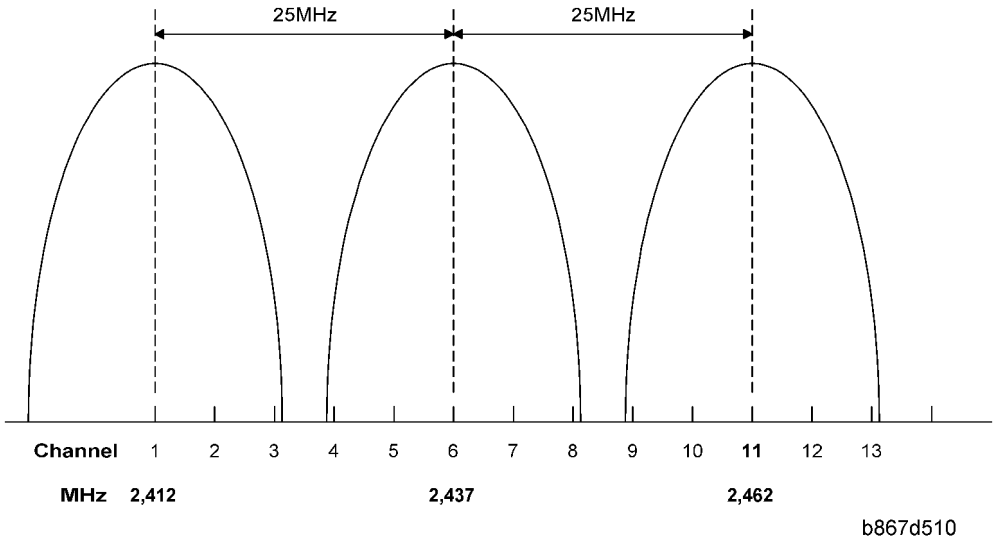
Note

- Communication status can be measured only when the infrastructure mode is being used.

Channel Settings

If a communication error occurs because of electrical noise, interference with other electrical devices, etc., you may have to change the channel settings.

To avoid interference with neighboring channels, it is recommended that you use a channel separated from another in use by 3 channels. For example, if there are problems using channel 11 (default), try using channel 8.



Troubleshooting Procedure

If there are problems using the wireless LAN, check the following.

1. Check the LED indicator on the wireless LAN card.
2. Check if "IEEE802.11b" is selected in the following user tool: Host Interface menu - Network Setup - LAN Type.
3. Check if the channel settings are correct.
4. Check if the SSID and WEP are correctly set.

If infrastructure mode is being used,

1. Check if the MAC address is properly set.
2. Check the communication status.
3. If the communication status is poor, bring the machine closer to the access point, or check for any obstructions between the machine and the access point. If the problem cannot be solved, try changing the channel setting.

Bluetooth

Specifications

Bluetooth wireless provides radio links between mobile computers, mobile phones and other portable handheld devices.

Bluetooth contains the following features.

- Cheaper compared to the IEEE802.11b wireless LAN.
- Many protocols for infrared transmission (IrDA) can be used with Bluetooth.
- A Bluetooth device can connect to other Bluetooth devices without any settings.

Standard applied:	Bluetooth 1.1 (Bluetooth Special Interest Group)
Data transfer rates:	1 Mbps
Bandwidth:	2.4GHz Frequency Hopping Spread Spectrum (FHSS)

Piconet:

Bluetooth devices communicate with other Bluetooth devices in the ad hoc mode. This network is called a "Piconet". A Piconet may contain a maximum of 8 Bluetooth devices.

There is one master device and seven slave devices in a Piconet. The master device controls the hopping frequency and timing, as well as storing the ID codes of the slave devices. The master and slave devices can be swapped. Once the master device leaves the Piconet, a slave device becomes the new master.

Machines with the Bluetooth option become potential slave devices to connect to a PC.

FHSS (Frequency Hopping Spread Spectrum):

The Bluetooth device divides 2402 to 2480 MHz into 79 channels of 1 MHz width, and changes the channel 1600 times per second. If other devices in the LAN are using the same radio band, Bluetooth can avoid interference from the other devices.

Bluetooth Profiles

A Bluetooth device will not operate if it is located overly close to another Bluetooth device. However, the Bluetooth device should support the protocols to communicate with each other. There are many types of Bluetooth and service protocols. These are listed below.

Here are 14 profiles for Bluetooth, as follows.

- Generic Access Profile
- Service Discovery Profile
- Cordless Telephony Profile
- Intercom Profile
- Serial Port Profile
- Headset Profile
- Dial-up Networking Profile
- Fax Profile
- LAN Access Profile
- Generic Object Exchange Profile
- Object Push Profile
- File Transfer Profile
- Synchronization Profile
- Hardcopy Cable Replacement Profile

Serial Port Profile (SPP) and Hardcopy Cable Replacement Profile (HCRP) are used for the printer products. SPP is used in place of the serial port, while HCRP is used in place of the parallel port.

Bluetooth Security Features

Public and Private Mode.

A computer can browse Bluetooth devices. The machine's default is public mode. A computer cannot browse the machine if it has been changed to private mode.

PIN Code (Personal Identification Number).

When the PIN code is used, a computer connects to the device that sent the PIN code. The PIN code is a 4 digit number. This machine uses the last four digits of the machine's serial number. It cannot be changed.

USB

Specifications

USB connectivity is provided as an option for this machine.

Interface:	USB 1.1, USB 2.0
Data rates:	480 Mbps (high speed), 12 Mbps (full speed), 1.5 Mbps (low speed) High speed mode is only supported by USB 2.0.

USB 1.1/2.0

USB (Universal Serial Bus) offers simple connectivity for computers, printers, keyboards, and other peripherals. In a USB environment, terminators, device IDs (like SCSI), and DIP switch settings are not necessary.

USB 1.1 provides the following features:

- Plug & Play. As soon as a new device is connected via USB, the operating system recognizes it, and the appropriate driver is installed for it automatically if the driver is available. If the driver is not available, a message prompts the user for the driver disk for immediate installation.
- Hot swapping (cables can be connected and disconnected while the computer and other devices are switched on)
- No terminator or device ID required
- Data rates of 12 Mbps (full speed), and 1.5 Mbps (low speed)
- Common connectors for different devices
- Bi-directional data communication between device and host computer via a 4-byte header and DEVICE ID.

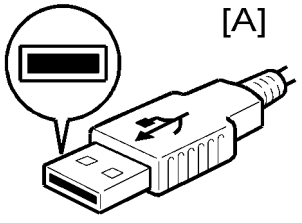
USB 2.0 is an evolution of the USB 1.1 specification. It uses the same cables, connectors, and software interfaces so the user will see no change. It provides an easy-to-use connection to a wide range of products with a maximum data rate of 480 Mbps (high speed).

Up to 127 devices can be connected and 6 cascade connections are allowed. Power is supplied from the computer and the maximum cable length is 5 m.

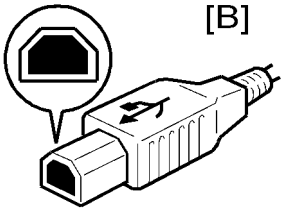
USB connectors

USB is a serial protocol and a physical link, which transmits all data on a single pair of wires. Another pair provides power to downstream peripherals. The USB standard specifies two types of connectors, type “A”

connectors for upstream connection to the host system, and type "B" connectors for downstream connection to the USB device.

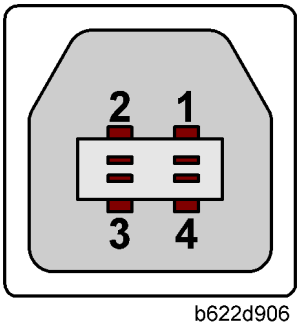


B622D919



B622D918

Pin Assignment



b622d906

The controller has a type "B" receptacle.

Pin No.	Signal Description	Wiring Assignment
1	Power	Red
2	Data –	White
3	Data +	Green
4	Power GND	White

Remarks about USB

- The machine does not print reports specifically for USB.
- Only one host computer is allowed for the USB connection.
- After starting a job using USB, do not switch the printer off until the job has been completed. When a user cancels a print job, if data transmitted to the printer has not been printed at the time of cancellation, the job will continue to print up to the page where the print job was cancelled

- When the controller board is replaced, the host computer will recognize the machine as a different device.

Related SP Mode

"USB Settings" in the printer engine service mode. Data rates can be adjusted to full speed fixed (12 Mbps). This switch may be used for troubleshooting if there is a data transfer error using the high speed mode (480 Mbps).

Data rates can also be adjusted using the UP mode "USB Setting" in the Host Interface in the System menu. This mode can be accessed only when the "Enter", "Escape", then "Menu" keys are pressed to enter the UP mode.

6. Specifications

General Specifications

Printer

Printing Speed:	Maximum 20 ppm (A4/LT LEF): B277 model Maximum 16 ppm (A4/LT LEF): B276 model
Printer Languages:	PCL6/PCL5e PostScript 3 (option) RPCS (Refined Printing Command Stream) - an original Ricoh PDL)
Resolution:	600 dpi (PCL 6/PCL5e/PS3/RPCS) 300 dpi (PCL6 PCL5e/PS3) 200 dpi (RPCS)
Resident Fonts:	PCL: 35 Intellifonts 10 True Type fonts PS3: 136 fonts (24 Type 2 fonts, 112 Type 14 fonts)
Host Interfaces:	USB 2.0 interface Ethernet (100 Base-TX/10 Base-T) (standard) Bi-directional IEEE1284 parallel x 1 (option) IEEE802.11 (Wireless LAN) (option) Bluetooth (option) USB Host (option)
Network Protocols:	TCP/IP
Memory:	128 MB
Supported Paper Size	See the copier service manual.

Scanner

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi
Available scanning Resolution Range:	Twain Mode: 100 to 600 dpi E-mail/Network Delivery Scanner: 100 dpi, 200 dpi, 300 dpi, 400 dpi, 600 dpi
Scanning Throughput:	25 spm for TWAIN 43 spm for Delivery mode (A4L, ADF mode)
Interface:	Ethernet (100 Base-TX/10 Base-T for TCP/IP), IEEE 802.11b (Wireless LAN), Bluetooth
Compression Method:	Binary: TIFF (MH, MR, MMR)

Software Accessories

Printer

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

Printer Drivers

Printer Language	Windows 95/98/ME	Windows NT4.0	Windows 2000/ XP/2003	Macintosh
PCL 6	Yes	Yes	Yes	No
PCL 5e	Yes	Yes	Yes	No
PS3	Yes	Yes	Yes	Yes
RPCS	Yes	Yes	Yes	No

Note

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

Utility Software

Software	Description
Agfa Font Manager (Win 95/98/ME, NT4, 2000, XP)	A font management utility with screen fonts for the printer.
SmartNetMonitor for Admin (Win 95/98/ME, NT4, 2000, XP)	A printer management utility for network administrators. NIB setup utilities are also available.
SmartNetMonitor for Client	A printer management utility for client users. Peer-to-peer printing utility and parallel/recovery printing functions are included.

(Win 95/98/ME, NT4, 2000, XP)	
LAN-Fax (Win 95/98/ME, NT4, 2000, XP)	PC LAN FAX driver
Bitmap Installer (Win 95/98/ME, NT4, 2000, XP)	-
Install Manager (Win 95/98/ME, NT4, 2000, XP)	-
Install Manager Configuration (Win 95/98/ME, NT4, 2000, XP)	-
Printer Utility for Mac	This software provides several convenient functions for printing from Macintosh clients.

SCANNER

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

Scanner Driver

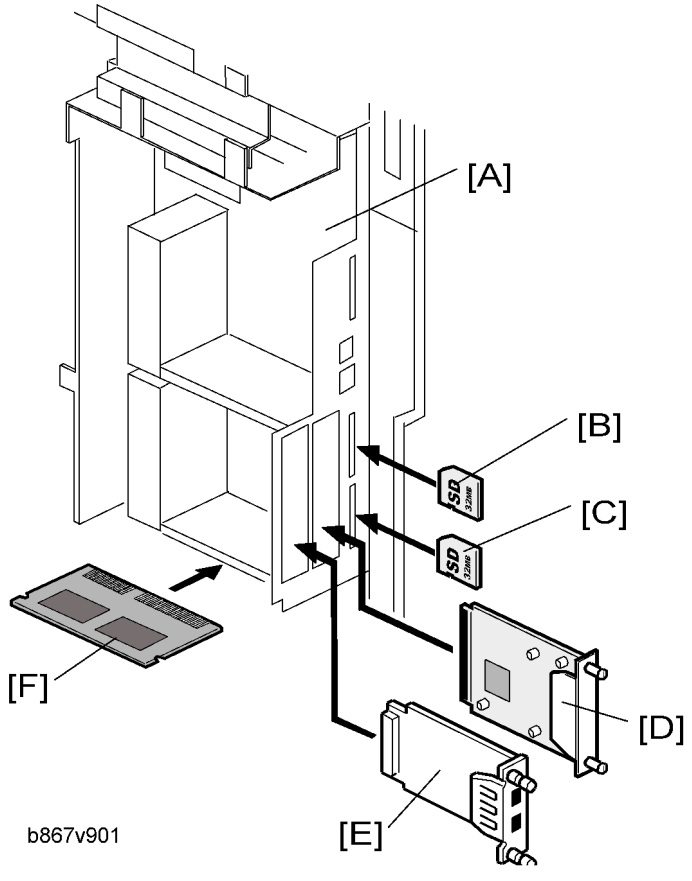
- Network Twain Driver for Win95/98/ME/NT3.51/NT4.0/2000

Scanner Utilities

- Scan Router V2 Lite (Cherry-Lite) for Win95/98/ME/NT4.0/2000/XP
- Desk Top Binder V2 Lite (Plumeria-Lite) for Win95/98/ME/NT4.0/2000/XP

Machine Configuration

System Components



Item	Machine Code		Remarks
GW Board	B843	[A]	Required to install the printer/scanner unit
Printer/Scanner unit	B867	[C]	
RAM DIMM	—	[F]	Distributed with the printer/scanner unit
PostScript 3	B896	[B]	-
IEEE 1284	B679	[D]	One from the four
Wireless LAN	G813	[D]	

Bluetooth	B826	[D]	
Embedded RCG-M	B818	[D]	
USB Host	B825	[E]	-

MEMO

MEMO