

**Printer/Scanner Option
Machine Code: D381
For Machine Code:
D009/D011/D012/D013 Copiers
SERVICE MANUAL**

August, 2007
Subject to change

Safety and Symbols

Conventions Used in this Manual

This manual uses several symbols.

👁️: See or Refer to

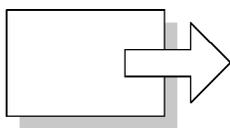
🔩: Screws

🔌: Connector

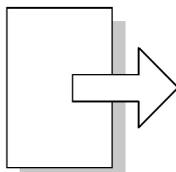
🔗: Clip ring

Ⓒ: E-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.

↓ **Note**

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

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1. Installation

Overview

This section describes the installation procedures for printer, scanner, and other options for D009/D012 series machines.

Printer/Scanner Options

The options listed in the table below are for D009/D012 machines only.

No.	Item	SD Card Slot	Merge Options
D381	Printer/Scanner Unit Type 5000	1	DOS
D381	Printer Unit Type 5000	1	DOS, Scanner Enhance
D381	RPCS Printer Unit Type 5000	1	DOS, Scanner Enhance Printer Enhance
D381	Printer Enhance Option Type 5000	Merge: 2 → 1	
D381	Scanner Enhance Option Type 5000	Merge: 2 → 1	

Other Options

The options listed in the table below are used in both D009/D012 series machines as well as D011/D013 series machines.

No.	Item	Slots
D377	File Format Converter Type E	Board Slot. Only one of these boards can be installed at one time.
G381	Gigabit Ethernet Type 7300	
B826	Bluetooth Interface Unit Type 3245	
D377	IEEE 802.11a/g, g Interface Unit Type J	
B679	IEEE 1284 Interface Board Type A	
D381	PostScript3 Unit Type 5000	SD card slot 1

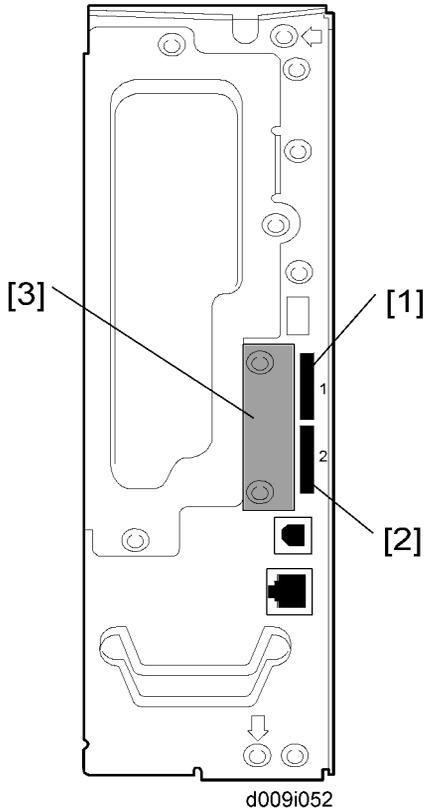
No.	Item	Slots
D362	Data Overwrite Security Unit Type I	SD card slot 1, or merge to SD Slot 1
D377	HDD Encryption Unit Type A	SD card slot 2 (Install, then remove)
D377	Browser Unit Type D	SD card slot 2 (Install, then remove)
D377	VM Card Type F	SD card slot 2
D362	Memory Unit Type G 256 MB	Controller Board

Note

- For more details about merging applications from SD card slot 2 to 1, see "Printer Enhance, Scanner Enhance Options" in this chapter.

Board, SD Card Slots

The machine controller box has one board slot and two SD card slots. Make sure that each board and SD card is put in the correct slot.



The names of the slots for the board and SD cards are embossed on the face of the controller plate.

SD Slot 1, Slot 2

Slot	SD Card
[1]	RPCS Printer Unit Printer Unit Printer/Scanner Unit Data Overwrite Security PostScript3
[2]	<ul style="list-style-type: none"> • Service slot for firmware version updates • Installing the optional browser unit, VM card or HDD encryption unit • Moving applications to an SD card in slot 1 • Downloading/uploading NVRAM contents

Board Slot

Slot	Board
[3]	<ul style="list-style-type: none">• File Format Converter (MLB): D377• Bluetooth Interface Unit: B826• IEEE 802.11a/g, g: D377• IEEE 1284 Interface Board: B679• Gigabit Ethernet: G381

Note

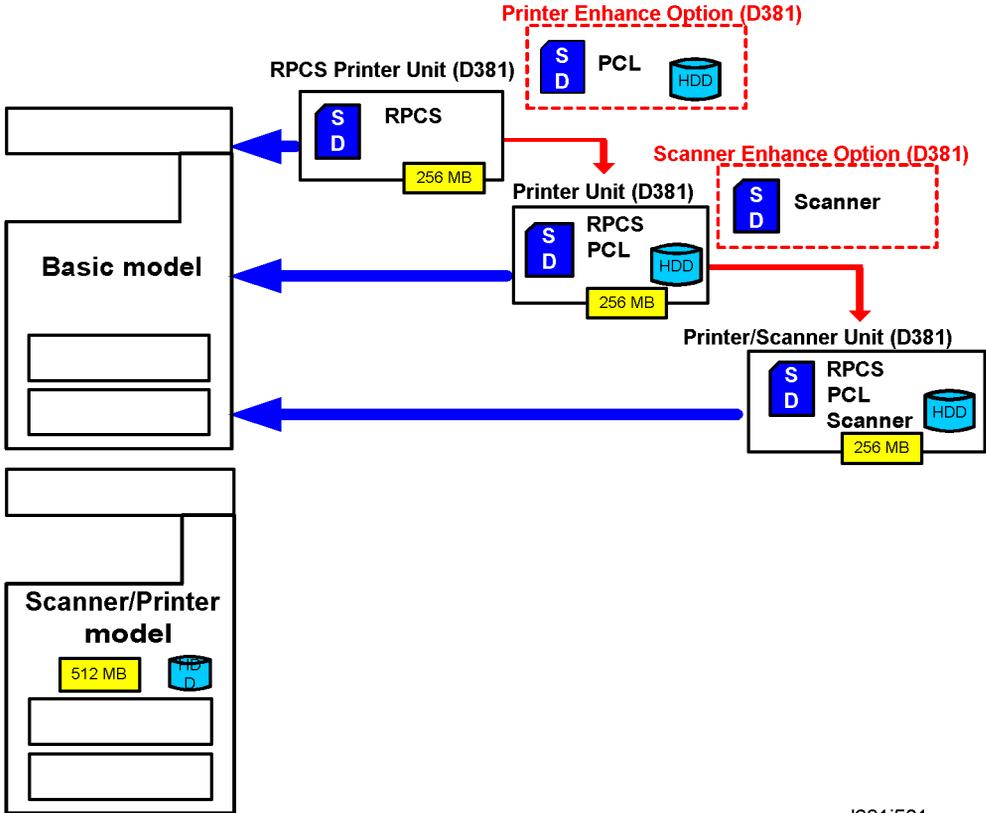
- Only one of these boards can be installed at one time.

Printer and P/S Options

Overview

This section describes the installation of the following items:

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



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Three Main Units

- RPCS Printer Unit Type 5000:

For customers who require only basic copying and printing and the RPCS printer language. The 256 MB memory is required.

- **Printer Unit Type 5000:**

For customers who do not require the extended scanning features but need more printing capability (both RPCS and PCL printer languages are provided). The 256 MB memory is required.

- **Printer/Scanner Unit Type 5000:**

For customers who require the full range of DS features (advanced scanning and printing features such as "scan-to" solutions, virtual mailboxes, PCL, etc.). The 256 MB memory unit is required.

Separate Options

There are two separate options not provided with the kits: 256 MB memory and PS3.

- **256 MB memory:**

Not provided with any option. However, every unit (RPCS, Printer Unit, P/S unit) requires installation of the 256 MB memory.

- **PostScript 3 Unit:**

The PS3 option can be used with the RPCS Unit, the Printer Unit, or the Printer/Scanner Unit.

Enhance Options

There are two enhance options:

- **Printer Enhance Option Type 5000:**

Updates the RPCS unit by adding PCL.

- **Scanner Enhance Option Type 5000:**

Updates the RPCS unit or Printer Unit by adding the advanced scanning features.

Kit Contents

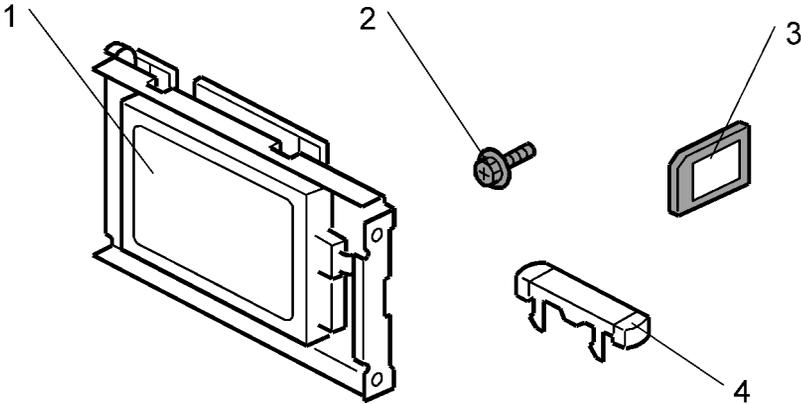
Check the accessories and their quantities against the list below and the illustration on the next page. This is a common list for all the kits.

Common Accessory Table

This common accessory table lists all the items of the following units and options for the D009/D012 Series machines:

- RPCS: RPCS Printer Unit
- PU: Printer Unit

- P/S: Printer/Scanner Unit
- PEO: Printer Enhance Unit
- SEO: Scanner Enhance Unit



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No.	Description	Q'ty	Kit Contents				
			RPCS	PU	P/S	PEO	SEO
	256 MB Memory* ¹	-	No	No	No	No	No
1	HDD Unit	1	No	Yes	Yes	Yes	No
2	Screw	3	No	Yes	Yes	Yes	No
3	SD Card	1	Yes	Yes	Yes	Yes	Yes
4	Keytop Set: NA* ²	1	Yes	Yes	Yes	Yes	Yes
	Keytop Set: EU* ²	1	Yes	Yes	Yes	Yes	Yes

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

*2: The number of keytops provided varies:

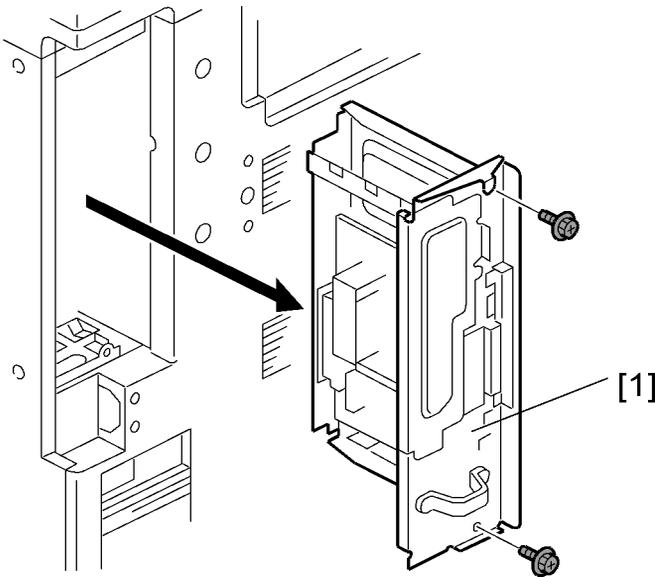
Kit	Keytops			
	Copy	Document Server	Printer	Scanner
RPCS Unit	1		1	
Printer Unit	1	1	1	

Kit	Keytops			
	Copy	Document Server	Printer	Scanner
Printer/Scanner Unit	1	1	1	1
Printer Enhance Unit		1		
Scanner Enhance Unit				1

Printer/Scanner Installation

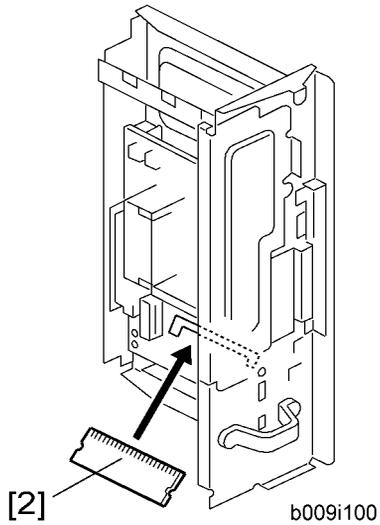
⚠ CAUTION

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

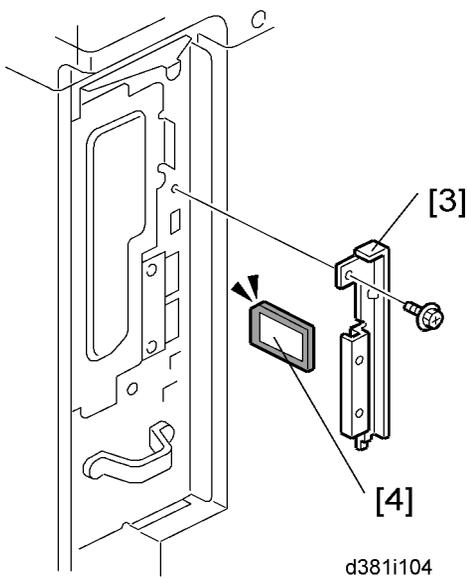


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1. Remove the controller board [1] (⚙ x 2).

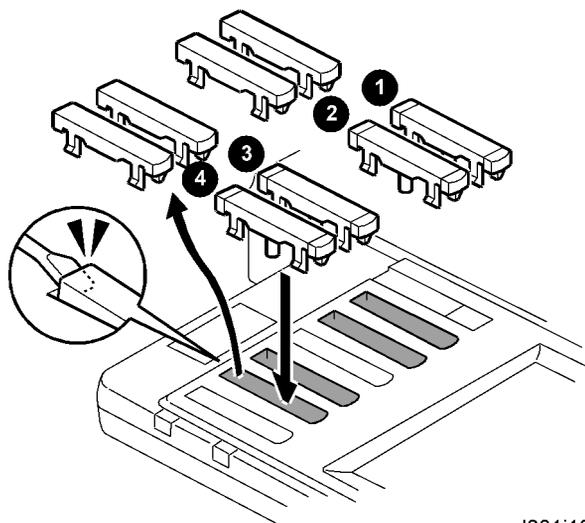


2. Install the 256 MB memory DIMM [2].
3. Install a hard disk (except RPCS Printer Kit). (➡ HDD Installation in the Service Manual of the Model AL-C1)
4. Reinstall the controller board.



5. Remove the SD card slot cover [3] (⚙️x1).
6. Insert the Printer/Scanner SD card [4] in SD card slot 1.
7. Reattach the cover.
8. Connect the LAN cable to the "NIC" connection.

9. Connect the USB cable to the "USB" connection.



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

Note

- The 3rd blank keytop from the top is reserved for the "Fax" keytop. Do not remove it at this time.

11. Replace the blank keytops:

- ① Copy
- ② Document Server
- ③ Printer
- ④ Scanner

12. Connect the machine's power cord and turn the main power switch on.

13. Enable the NIB and/or USB function.

- To enable the NIB function, enter the SP mode and set SP5985-001 (On Board NIC) to "1" (Enable).
- To enable the USB function, enter the SP mode and set SP5985-002 (On Board USB) to "1" (Enable).

Printer Enhance, Scanner Enhance Options

Accessory Check

Refer to the "Common Accessory Table" in this chapter.

Installation (Application Merge)

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

↓ Note

- If you are going to update the RPCS unit with both the printer and scanner enhance options, the order of execution is not important.
1. Turn off the copier.
 2. Remove the cover (🔧 x 1).
 3. Confirm that the RPCS Unit or Printer Unit SD card is in SD card Slot **1**.
 4. Put the option SD Card (Printer Enhance Option or Scanner Enhance Option) in SD card slot **2**.
 5. Open the front door.
 6. Turn the copier on.
 7. Go into the SP mode and select **SP5873-001**.
 8. Touch "Execute".
 9. Read the instructions on the display and touch "Execute" to start.
 10. When the display tells you copying is completed, touch "Exit", then turn the copier off.
 11. Remove the option SD card from slot **2**.
 12. Turn the copier on.
 13. Go into the User Tools mode and confirm that update was successful.
 14. User Tools> System Settings> Administrator Tools> Firmware Version> Next
 15. Turn the copier off again, then reattach the cover.
 16. Return the copied SD card to the customer for safekeeping, or tape it to the faceplate of the controller.

To undo an option update

1. Turn the main switch off.
2. Confirm that the RPCS Unit or Printer Unit SD card is in SD card Slot **1**.
3. Put the original option SD card (Printer Enhance Option or Scanner Enhance Option) in SD card slot **2**.
4. Turn the main switch on.
5. Go into the SP mode and do **SP5873-002 (Undo Exec)**.
6. Follow the messages on the operation panel to complete the procedure.
7. Turn the main switch off.
8. Remove the option SD card from Slot **2**.

9. Turn the main switch on.
10. Go into the User Tools mode and confirm that undo was successful.
User Tools> System Settings> Administrator Tools> Firmware Version> Next
11. Turn the copier off again, then reattach the cover.

Important Notes about SD Cards

Here are some basic rules about merging applications on SD cards.

- The data necessary for authentication is transferred with the application program to the target SD card.
- The SD card is the only evidence that the customer is licensed to use the application program. The service technician may occasionally need to check the SD card and its data to solve problems. SD cards must be stored in a safe location at the work site.
- Once the merge is completed, the SD card from which the application was copied cannot be used again, but the customer must keep the card to serve as proof of purchase.
- An SD card from which an application has been moved to another SD card can be restored to full operation with **SP5873-002** (Undo).
- Before storing the card from which an application has been copied, label it carefully so that you can identify it easily if you need to do the undo procedure later.

Application Merge

This machine has two SD card slots only. However, more than two optional applications are supplied for this machine. Always keep SD card slot 2 vacant for servicing (except VM Card Type F). Because of this, SD card merge is required if a customer wants to use many applications.

Consider the following limitations when you try to merge SD cards.

- PostScript3 cannot be moved to the other SD card.
- The destination SD card should have the largest memory size of all the application SD cards. Refer to the following table for the memory size of each SD card.

SD Card Options	SD Card Size	Module Size
Printer/Scanner Unit Type 5000	32 MB	9.3 MB
RPCS Printer Unit Type 5000	32 MB	6.3 MB
Printer Unit Type 5000	32 MB	8.3 MB
Printer Enhance Option Type 5000	16 MB	4 MB

SD Card Options	SD Card Size	Module Size
Scanner Enhance Option Type 5000	16 MB	3 MB
DataOverwriteSecurity Unit Type I	16 MB	4 MB
PostScript3 Unit Type 5000	64 MB	14.6 MB

Case 1: PostScript3 is not installed

Merge all applications which the customer wants to use into one SD card (Destination Card).

↓ Note

- The destination card should have the largest memory size of all the application SD cards.
- The VM Card Type F cannot be merged, nor moved to another SD card. This card must be installed in slot 2.

Case 2: PostScript3 is installed

Merge all applications which the customer wants to use into the PostScript3 SD card.

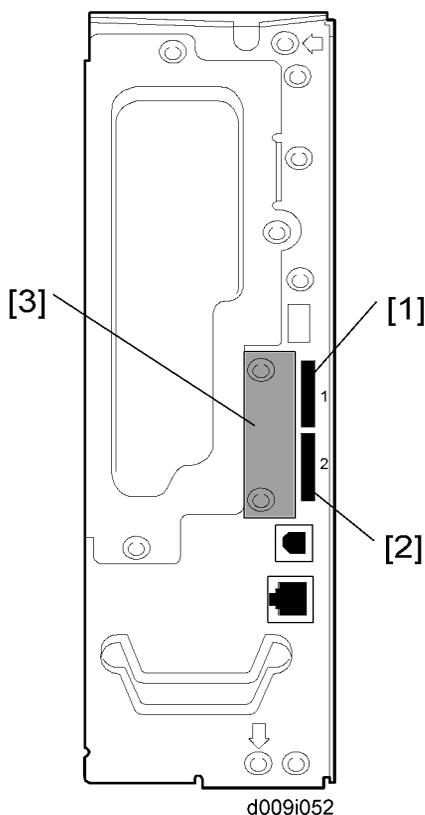
Other Options

1

Overview

This machine has a board slot for optional I/F connection and two SD card slots for applications.

After you install an option, check that the machine can recognize it (☛ “Check All Connections” at the end of this section).



Board Slot

- This slot [3] is used for one of the optional board connections (only one can be installed): IEEE1284, IEEE802.11a/g, g (Wireless LAN), Bluetooth, Gigabit Ethernet, or File Format Converter.

SD Card Slots

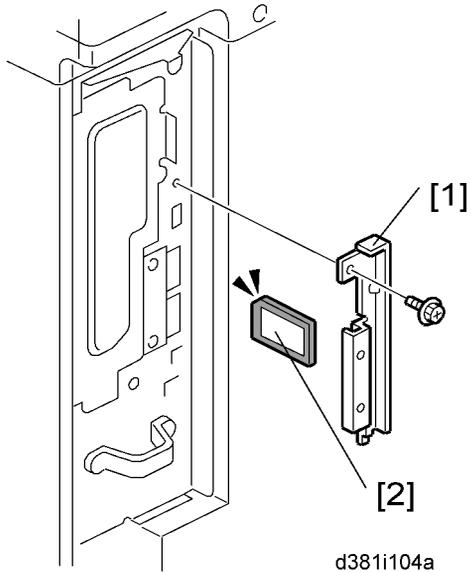
- Slot 1 [1] is used for PostScript3 or Data Overview Security Unit.
- Slot 2 [2] is used for installing the VM Card, HDD Encryption Unit, Browser Unit or for service use

PostScript 3

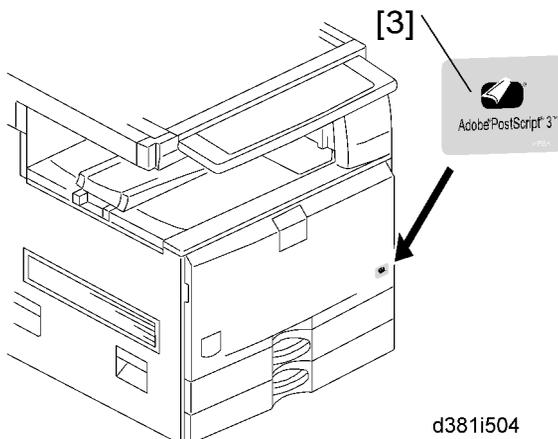
⚠ CAUTION

- Unplug the main machine power cord before you do the following procedure.

1



1. Remove the slot cover [1] (⚙ x 1).
2. Turn the SD-card label face [2] to the rear of the machine. Then push it slowly into slot 1 until you hear a click.
3. Attach the slot cover [1] (⚙ x 1).



4. Attach the "Adobe PostScript 3" decal [3] to the front door.

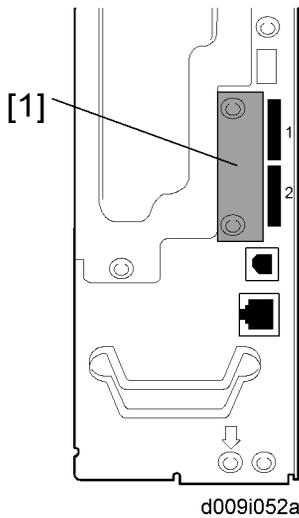
5. Make sure that the machine can recognize the option (☛ "Check All Connections" at the end of this section).

1

File Format Converter

⚠ CAUTION

- Unplug the main machine power cord before you do the following procedure.



1. Remove the slot cover [1] from the board slot (☛ x 2).
2. Install the file format converter into the board slot, and then fasten it with screws.
3. Plug in and turn on the main power switch.
4. Check or set the following SP codes with the values shown below.

SP No.	Title	Setting
SP5-836-001	Capture Function (0:Off 1:On)	"1"
SP5-836-002	Panel Setting	"0"

5. Check the operation.
6. Make sure that the machine can recognize the option (☛ "Check All Connections" at the end of this section).

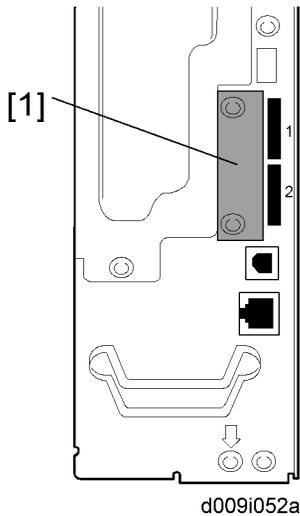
IEEE1284

Installation Procedure

⚠ CAUTION

- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at one time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE 1284, Bluetooth).



1. Remove the slot cover [1] from the board slot (⚙ x 2).
2. Install the interface board (Knob-screw x 2) into the board slot.
3. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

IEEE 802.11 a/g, g (Wireless LAN)

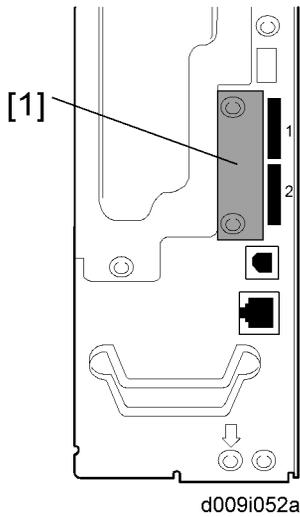
Installation Procedure

⚠ CAUTION

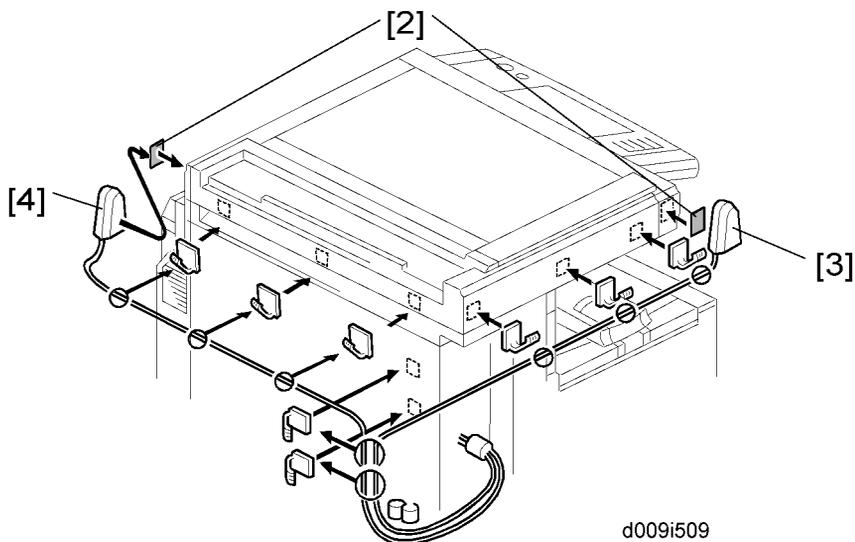
- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at one time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE 1284, Bluetooth).

1



1. Remove the slot cover [1] from the board slot (⌀ x 2).
2. Install the wireless LAN board (Knob-screw x 2) into the board slot.
3. Make sure that the machine can recognize the option (see 'Check All Connections' at the end of this section).



4. Peel off the double-sided tapes on the Velcro fasteners [2], and then attach them [2] at the front left and rear right of the machine.
5. Attach the "ANT1" (having a black ferrite core) to the front left of the machine.
6. Attach the "ANT2" (having a white ferrite core) to the rear right of the machine.

↓ **Note**

- "ANT1" is a transmission/reception antenna and "ANT2" is a reception antenna. Do not attach them at the wrong places.

7. Attach the clamps as shown above.
8. Wire the cables and clamp them (🔧 x 8).

↓ **Note**

- Make sure that the cables are not slack. Keep them wired tightly along the covers.

You may have to move the machine if the reception is not clear.

- Make sure that the machine is not located near an appliance or any type of equipment that generates strong magnetic fields.
- Put the machine as close as possible to the access point.

UP Mode Settings for Wireless LAN

Enter the UP mode. Then do the procedure below to perform the initial interface settings for IEEE 802.11a/g. These settings take effect every time the machine is powered on.

↓ **Note**

- You cannot use the wireless LAN if you use Ethernet.
1. Press the "User Tools/Counter" key.
 2. On the touch panel, press "System Settings".

↓ **Note**

- The Network I/F (default: Ethernet) must be set for either Ethernet or wireless LAN.

3. Select "Interface Settings".
4. Press "Wireless LAN". Only the wireless LAN options show.
5. Communication Mode. Select either "802.11 Ad hoc", "Ad hoc" or "Infrastructure".
6. SSID Setting. Enter the SSID setting. (The setting is case sensitive.)
7. Channel. You need this setting when Ad Hoc Mode is selected.

Range: 1 to 14 (default: 11)

↓ **Note**

- The allowed range for the channel settings may vary for different countries.
8. WEP (Encryption) Setting. The WEP (Wired Equivalent Privacy) setting is designed to protect wireless data transmission. The same WEP key is required on the receiving side in order to unlock encoded data. There are 64 bit and 128 bit WEP keys.

WEP:

Selects "Active" or "Inactive". ("Inactive" is default.)

Range of Allowed Settings:

64 bit: 10 characters

128 bit: 26 characters

9. Transmission Speed. Press the Next button to show more settings. Then select the transmission speed for the mode: Auto, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps (default: Auto). This setting should match the distance between the closest machine or access point. This depends on which mode is selected.

Note

- For the Ad Hoc Mode, this is the distance between the machine and the closest PC in the network. For the Infrastructure Mode, this is the distance between the machine and the closest access point.

11 Mbps: 140 m (153 yd.)

5.5 Mbps: 200 m (219 yd.)

2 Mbps: 270 m (295 yd.)

1 Mbps: 400 m (437 yd.)

10. Press "Return to Default" to initialize the wireless LAN settings.

Press "Yes" to initialize the following settings:

- Transmission mode
- Channel
- Transmission Speed
- WEP
- SSID
- WEP Key

SP Mode Settings for IEEE 802.11 a/g, g Wireless LAN

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

SP No.	Name	Function
5840-006	Channel MAX	Sets the maximum range of the channel settings for the country.
5840-007	Channel MIN	Sets the minimum range of the channels settings allowed for your country.
5840-011	WEP Key Select	Used to select the WEP key (Default: 00).
UP mode	Name	Function

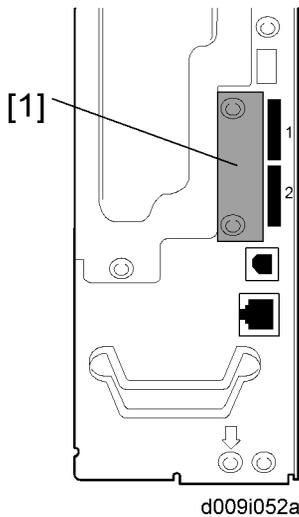
	SSID	Used to confirm the current SSID setting.
	WEP Key	Used to confirm the current WEP key setting.
	WEP Mode	Used to show the maximum length of the string that can be used for the WEP Key entry.

Bluetooth

⚠ CAUTION

- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at one time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE 1284, IEEE 1394, Bluetooth).



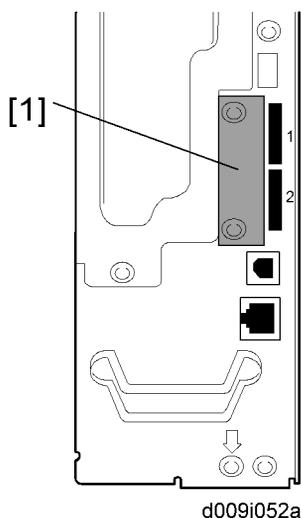
1. Remove the slot cover [1] from the board Slot (⚙ x 2).
2. Install the Bluetooth board (Knob-screw x 2) into the board slot.
3. Insert the Bluetooth card into the Bluetooth card adaptor.
4. Attach the antenna cap to the Bluetooth card.
5. Install the Bluetooth card adaptor into the Bluetooth board.
6. Make sure that the machine can recognize the option (see "Check All Connections" at the end of this section).

Gigabit Ethernet and USB2.0

⚠ CAUTION

- Unplug the main machine power cord before you do the following procedure.

You can only install one of the following network interfaces at one time: (IEEE 802.11 a/g, g (Wireless LAN), IEEE1284, IEEE1394, Bluetooth).



1. Remove the slot cover [1] from the board slot (⚙ x 2).
2. Insert the Gigabit Ethernet Board into the I/F slot and fasten it with the screws.
3. Print a configuration page to confirm that the machine recognizes the installed board for USB2.0:
 - User Tools > Printer Features > List/Test Print > Configuration Page

Check All Connections

Plug in the power cord. Then turn on the main switch.

Enter the printer user mode. Then print the configuration page.

User Tools > Printer Settings > List Test Print > Config. Page

All installed options are shown in the "System Reference" column.

2. Service Tables

Printer Service Table

SP Tables

2

SP	Number/Bit SW		Initial	
1001	Bit Switch			
	001	Bit SW 1	00H	Adjusts the bit switch settings. Note: These bit switches are currently not used
	002	Bit SW 2	00H	
	003	Bit SW 3	00H	
	004	Bit SW 4	00H	
	005	Bit SW 5	00H	
	006	Bit SW 6	00H	
	007	Bit SW 7	00H	
	008	Bit SW 8	00H	
1003	Clear setting			
	001	Initialize Printer System	Initializes the settings in the printer feature settings of UP mode.	
	003	Delete Program	DFU	
1004	Print Summary		Prints the printer summary sheet.	
1005	Display Version		Displays the version of the controller firmware.	
1006	Sample/Proof Print		[0 or 1 / 0 / -] 0: Link with Doc. Server 1: Enable	

Scanner Service Table

SP Tables

2

SP	Number/Name	Function/[Setting]
1001	Scan NV Version	Displays the version of the scanner NV.
1004	Compression Type	Selects the compression type for binary picture processing. [1 to 3 / 1 / 1/step] 1: MH, 2: MR, 3: MMR
1005	Erase Margin	Creates an erase margin for all edges of the scanned image. If the machine has scanned the edge of the original, create a margin. [0 to 5 / 0 / 1 mm/step]
1009	Remote scan disable	Enables or disables the TWAIN function. [0 or 1 / 0 / -] 0: Enable, 1: Disable
1010	Non Display Clear Light PDF	Displays or does not display the clear light PDF function. [0 or 1 / 0 / -] 0: Display, 1: Not display
1011	Org Count Disp	Displays or does not display the original counter. [0 or 1 / 0 / -] 0: Not display, 1: Display
1012	User Info Release	Clears or does not clear a user information after a job. [0 or 1 / 1 / -] 0: Not clear, 1: Clear

SP	Number/Name	Function/[Setting]
2021	Compression level (grayscale)	
	These SP codes set the compression ratio for the grayscale processing mode that can be selected with the notch settings on the operation panel. Range: 5 (lowest ratio) ↔ 95 (highest ratio)	
1	Comp 1: 5 - 95	[5 to 95 / 20 / 1 /step]
2	Comp 2: 5 - 95	[5 to 95 / 40 / 1 /step]
3	Comp 3: 5 - 95	[5 to 95 / 65 / 1 /step]
4	Comp 4: 5 - 95	[5 to 95 / 80 / 1 /step]
5	Comp 5: 5 - 95	[5 to 95 / 95 / 1 /step]

2024*	[Compression ratio of ClearLight PDF]	
	Selects the compression ratio for clearlight PDF for the two settings that can be selected at the operation panel.	
1	Compression Ratio (Normal image)	[5 to 95 / 25 / 1 /step]
2	Compression Ratio (High comp image)	[5 to 95 / 20 / 1 /step]

3. Detailed Section Descriptions

Overview

Printer Features

Function	A-C4.5	AL-C1
Sample Print	Yes	Yes
Locked Print	Yes	Yes
Hold Print	Yes	Yes
Stored Print	Yes	Yes
Store and Print	Yes	Yes
PDF Direct Print	Yes	Yes
Bonjour (Rendez-vous)	Yes	Yes
Windows Active Directory	Yes	Yes
PictBridge	No	No
DDNS Support	Yes	Yes
Mail to Print	No	Yes
PCL resident font	Yes	Yes
Tray-Parameter Change from WebImageMonitor	No	Yes
Imposition Settings	No	No
Creep Adjustment	No	No
Crop Mark	No	No
Mobile Driver	Yes	Yes
Windows Vista	Yes	Yes
Wireless LAN interface option	Yes	Yes
IPv6	Yes	Yes

Function	A-C4.5	AL-C1
Black Over Print	-	-
CLP Simulation	-	-

Scanner Features

3

Function	A-C4.5	AL-C1
Scan to E-mail	Yes	Yes
E-mail message attached	Yes	Yes
Subject attached	Yes	Yes
SMTP Auth	Yes	Yes
POP before SMTP	Yes	Yes
Scan to SMB	Yes	Yes
Scan to FTP	Yes	Yes
Scan to URL	Yes	Yes
Scan to NCP	Yes	Yes
Scanned file naming	Yes	Yes
Reference # Setting	Yes	Yes
Scan file type selection	Yes	Yes
Single TIFF	Yes	Yes
Single JPEG (Gray Scale)	Yes	Yes
Single PDF	Yes	Yes
Single High Compression PDF	Yes	Yes
Multi page TIFF/PDF	Yes	Yes
Multi page High Compression PDF	Yes	Yes
LDAP Support	Yes	Yes

Function	A-C4.5	AL-C1
Email Address search	Yes	Yes
FAX address search	Yes	Yes
Preview before transmission (TX Preview)	No	Yes
PDF Encryption	No	Yes
Drop out Color Send	No	Yes
Twain Scan	Yes	Yes

4. Specifications

Printer Controller Specifications

Printer Controller

Printing Speed:	D009/D012: Maximum 40 ppm (A4/LT LEF) D011/D013: Maximum 50 ppm (A4/LT LEF)	
Printer Languages:	PCLXL/PCL5e PostScript 3 (Option) RPCS (Refined Printing Command Stream - an original Ricoh PDL)	
Resolution (Driver):	RPCS	200/600 dpi
	PS3	300/600 dpi
	PCL5e	300/600 dpi
	PCLXL	300/600 dpi
Resident Fonts:	PCL	TrueType: 10, Intellifont: 35, International: 13
	PS3	Option fonts PS3
Connectivity	Std.	Ethernet; (RJ-45 network port: 10Base-T/100Base-TX), USB 2.0
	Option	IEEE802.11 a/g, g (Wireless LAN), Bluetooth, IEEE1284 (Centronics Parallel), Gigabit Ethernet
Network Protocols	TCP/IP, IPX/SPX, AppleTalk (Auto Switching)	
RAM:	Maximum MS model: 512 MB (Resident 256 MB + Additional 256 MB) CS model: 768 MB (Resident 512 MB + Additional 256 MB) Note: Additional 256 MB is required for all printer/scanner unit and printer units.	

USB Specifications

USB connectivity is built into the controller.

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

4

IEEE 802.11a/g, g

Radiofrequency Band	802.11a: 5 GHz 802.11b: 2.4 GHz 802.11g: 2.4 GHz
Data Transfer Speed	802.11a: 54 Mbps 802.11b: 11 Mbps 802.11g: 54 Mbps
Security Standards	IEEE 802.11 WEP WPA/ WPA2 (IEEE 802.11i) Enterprise Mode

Bluetooth Specifications

Transmission Specifications	Based on Bluetooth V1.1
Data Transfer Speed	1 Mbps
Profile	Hard Copy Cable Replacement Profile (HCRP), Serial Port Profile (SPP), BIP
Distance Between Devices	10 m (The maximum distance when using outdoors, otherwise depends on the office environment.)

Scanner Specifications

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi	
Scanning Speed	B/W Scanning; 61 ipm, E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text 200 dpi, MH Compression) Color Scanning; 31 ipm, E-mail/Scan-to-Folder/Network Delivery Scanner (A4 LEF, Text/Photo 200 dpi, Default Compression)	
Available scanning Resolution Range:	100 to 1200 dpi;	When used as a Network TWAIN scanner.
	100, 200, 300, 400, 600 dpi;	When used as a network delivery scanner, Scan-to-Folder, Scan-to-Email, or Document Server storage.
Grayscales:	8 bits/pixel	
Interface:	Ethernet 10/100BASE TX, Wireless LAN 802.11a/g, g	
Compression Method:	MH, MR, MMR (Binary Picture Processing) JPEG (Grayscale Processing) PDF (High Compression Processing): MS model only	
Video Memory Capacity:	MS model: 35 MB (A4/ Grayscale/ 600dpi) MS model: 109 MB (A4/ Full color/ 600dpi)	
Image Storage Capacity:	Number of originals per file: Maximum 1,000 pages Maximum of files: 3000 files	
Max. Storage on Doc. Svr.	9,000 pages (B&W (ITUT No. 1/200 dpi MMR))	

Software Accessories

Printer

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

Printer Drivers

Printer Language	Windows 95/98/Me	Windows NT4.0	Windows 2000, XP, Server 2003/Vista	MacOS8.6 to 9.x, MacOSX10.1 or later
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/XP/Server 2003/Vista, which uses Microsoft PS. A PPD file for each operating system is provided with the driver.

Utility Software

Software	Description
Agfa Monotype Font Manager 2000 (Win 95/98/Me, NT4, 2000)	A font management utility with screen fonts for the printer.
Smart Device Monitor for Admin (Win 95/98/Me, NT4, 2000/XP/Server 2003/ Vista)	A printer management utility for network administrators. NIB setup utilities are also available.
DeskTopBinder – SmartDeviceMonitor for Client (Win 95/98/Me, NT4, 2000/XP/Server 2003/ Vista)	A printer management utility for client users. Peer-to-peer printing utility and parallel/recovery printing functions are included.

LAN-Fax M7 Driver (Win 95/98/Me, NT4, 2000/XP)	This driver allows use of the LAN-Fax functions by installing the LAN-Fax driver, Address Book, and LAN-Fax Cover Sheet Editor.
PS Utility for Mac	This software provides several convenient functions for printing from Macintosh clients.
Acrobat Reader	A utility that allows reading PDF files.

Scanner

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

Scanner Driver

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

Scanner Utilities

- DeskTopBinder Lite for 2000/XP/Server 2003

MEMO

