Printer/Scanner Option
Machine Code: D595

SERVICE MANUAL

July, 2011
Subject to change

Important Safety Notices

⚠WARNING

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use a telephone or cellular phone to report a gas leak in the vicinity of the leak.

⚠CAUTION

- Before installing the fax unit, switch off the main switch, and disconnect the power cord.
- The fax unit contains a lithium battery. The danger of explosion exists if a battery of this type is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer. Discard batteries in accordance with the manufacturer's instructions and local regulations.

Note

- Note for Australia:
- Unit must be connected to Telecommunication Network through a line cord which meets the requirements of ACA Technical Standard TS008.

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

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 document provides tips and advice about how to best service the machine.

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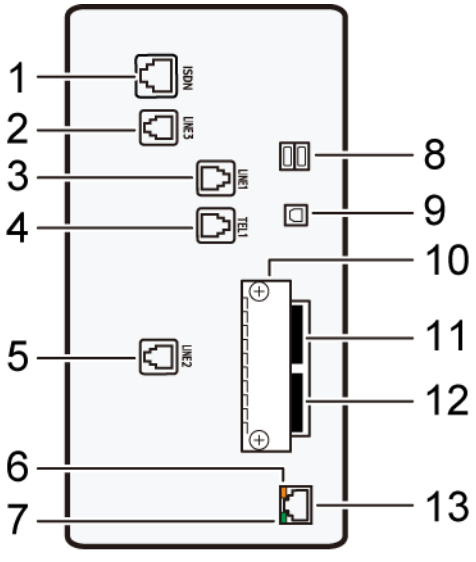
1. Installation

Controller Board Slots

Interface Board, SD Card Slots

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

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



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Board Slots

No.	Name	Description
1	ISDN	Jack for ISDN connection (**Japan Only**)
2	Line 3	Jack for a 3rd line connection to the Fax Interface Unit (D596) (G3) when this option is installed.
3	Line 1	Jack for the main telephone line from the outside for connection to Fax Option (D596).
4	TEL1	Jack for telephone connection

No.	Name	Description
5	Line 2	Jack for a 2nd line connection to the Fax Interface Unit (D596) (G3) when this option is installed.
6	Orange LED	Lights when the network is connected and operating.
7	Green LED	Lights when 10BASE-TX or 100BASE-TX is operating.
8	USB-A	Both USB slots are used for the Bluetooth option and a card authentication device.
9	USB-B	Built-in for connection of USB devices (USB 2.0)
10	Board Slot	Optional interface boards are installed here.
11	SD Card Slot 1	For options provided on SD cards. The application SD card (with the exception of the VM card) can be installed in both Slot 1 and Slot 2. If more than two application is to be used, move the applications to the same SD card with SP5873.
12	SD Card Slot 2	For options provided on SD cards and servicing. The application SD card (with the exception of the VM card) can be installed in both Slot 1 and Slot 2. The VM card must be installed in Slot 2.
13	Ethernet	Standard LAN connection point. 100BASE-TX/10BASE-T LAN

- Only two SD Card slots are available for applications.
- To install more applications, they must be moved onto one SD Card.

Board Slot

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

No.	Interface Board
B679	IEEE1284 Interface Board Type A (B679)
D377	IEEE 802.11a/g Interface Unit Type J (D377) -or- IEEE 802.11g Interface Unit Type K (D377)
B870	Optional Counter Interface Unit Type A (B870)

No.	Interface Board
D377	File Format Converter Type E (D377)
G874	Gigabit Ethernet Board Type A (G874)
B829	Copy Data Security Unit Type F (B829)

SD Card Slots

The following options are provided on SD cards.

- Two SD card slots are available.
- The VM application SD card must be installed in Slot 2 (lower).
- Other applications can be installed in either Slot 1 or Slot 2. If more than one application is required, applications can be moved onto one SD card with SP5873-1.

No.	SD Card Appliacations
D430	Browser Unit Type E (D430)
D594	VM Card Type N (D594)
D595	PostScript3 Unit Type 3352 (D595)
D595	IPDS Unit Type 3352 (D595)
D595	Printer Unit Type 3352 (D595)
D595	Printer/Scanner Unit Type 3352 (D595)
D595	Scanner Enhance Option Type 3352 (D595)

USB Slots

The following option is provided on a USB Device.

No.	USB Device
D566	Bluetooth Interface Unit Type D (D566)

SD Card Appli Move

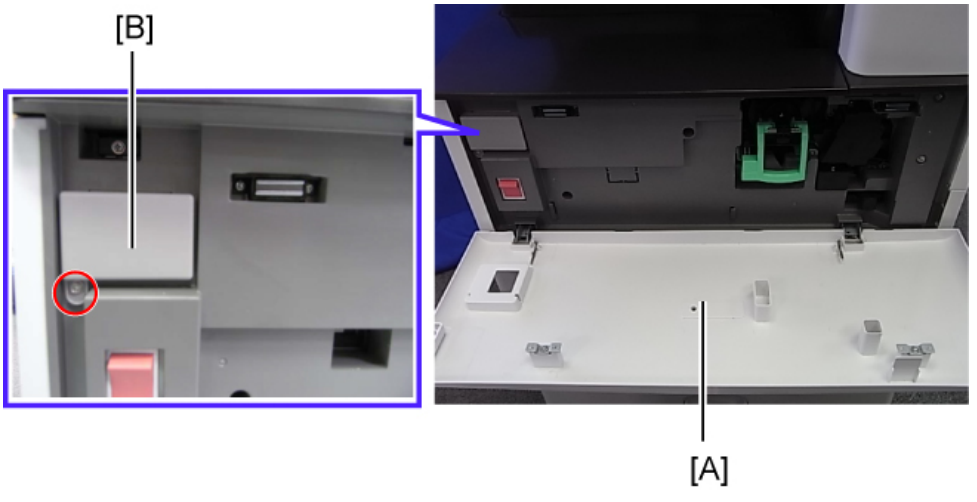
1 Overview

The service program "SD Card Appli Move" (SP5-873) lets you move application programs from one SD card to another SD card.

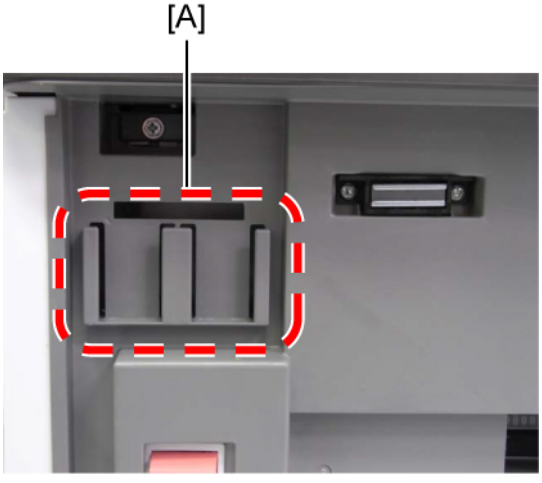
If more than one application is required, the applications must be moved to one SD card with SP5873-1 (PostScript 3, IPDS unit, etc.).

Be very careful when you do the SD Card Appli Move procedure:

- The data necessary for authentication is transferred with the application program from an SD card to another SD card. Authentication fails if you try to use the SD card after you move the application program from one card to another card.
- Do not use the SD card if it has been used before for other purposes. Normal operation is not guaranteed when such an SD card is used.



- Open the front cover [A], and then remove the bracket [B].



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Keep the SD cards here [A] after you move the application program from one card to another card. This is done for the following reasons:

- The SD card can be the only proof that the user is licensed to use the application program.
- You may need to check the SD card and its data to solve a problem in the future.

- See the tables below for details on which modules can and cannot be moved.

SD cards and Included Modules

The following table shows the SD cards and modules included on each card.

Module Type	SD Card							
	SD Card provided with the SP Model	Printer Unit	Scanner Enhance Option	Printer/ Scanner Unit	VM card	PS3 Unit	IPDS Unit	Browser Unit
App2Me*1	○	-	-	-	-	-	-	-
Printer	○	●	-	○	-	-	-	-
Scanner	○	-	○	○	-	-	-	-
PDF direct	○	●	-	○	-	○	-	-
Java-VM	○	-	-	-	●	-	-	-

Module Type	SD Card							
	SD Card provided with the SP Model	Printer Unit	Scanner Enhance Option	Printer/ Scanner Unit	VM card	PS3 Unit	IPDS Unit	Browser Unit
PS	-	-	-	-	-	○	-	-
IPDS	-	-	-	-	-	-	○	-
Browser	-	-	-	-	-	-	-	○

●: Cannot move to another SD card.

*1: To use App2Me on models other than the SP model, it must be downloaded from the App2Me Web site. Java-VM is required.

The VM card and service SD cards must be installed in slot 2. Other SD cards can be installed in either slot.

Java-VM cannot be moved to another card.

The Printer function cannot be moved to another card.

Move Exec

The menu "Move Exec" (SP5-873-001) lets you move application programs from the original SD card to another SD card.

Important

- **Do not turn ON the write protect switch of the system SD card or application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.**

1. Turn off the main power switch.
2. Make sure that a target SD card is in SD Card Slot 1. The application program is moved to this SD card.
3. Insert the source SD card with the application program in SD Card Slot 2.The application program is copied from this source SD card.
4. Turn on the main power switch.
5. Start the SP mode.
6. Select SP5-873-001 "Move Exec".
7. Follow the messages shown on the operation panel.

8. Turn off the main switch.
9. Remove the source SD card from SD Card Slot 2.
10. Turn the main switch on.
11. Check that the application programs run normally.

Undo Exec

"Undo Exec" (SP5-873-002) lets you move back application programs from an SD card in SD Card Slot 1 to the original SD card in SD Card Slot 2. You can use this program when, for example, you have mistakenly copied some programs by using Move Exec (SP5-873-001).

Important

- **Do not turn ON the write protect switch of the system SD card or application SD card on the machine. If the write protect switch is ON, a download error (e.g. Error Code 44) occurs during a firmware upgrade or application merge.**

1. Turn off the main power switch.
2. Insert the original SD card in SD Card Slot 2. The application program is copied back into this card.
3. Insert the SD card with the application program in SD Card Slot 1.The application program is copied back from this SD card.
4. Turn on the main power switch.
5. Start the SP mode.
6. Select SP5-873-002 "Undo Exec."
7. Follow the messages shown on the operation panel.
8. Turn off the main switch.
9. Remove the SD card from SD Card Slot 2.
10. Turn on the main power switch.
11. Check that the application programs run normally.
12. Make sure that the machine can recognize the option.

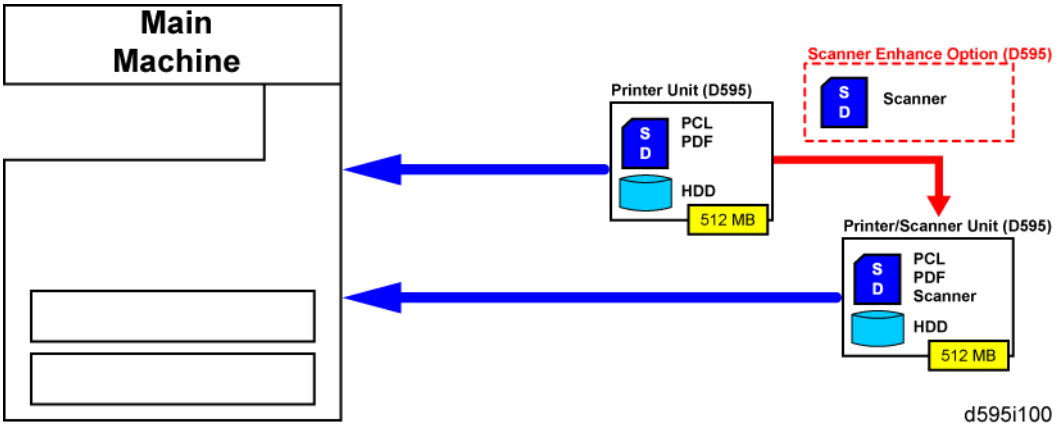
Printer and P/S Options

1

Overview

This section describes the installation of the following items (these procedures apply to the Basic models only, not the SP models):

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



Main Units

The two main units are:

- **Printer Unit Type 3352.** For customers who do not require the extended scanning features but need more printing capability (PCL printer language is provided). The 512 MB memory is required.
- **Printer/Scanner Unit Type 3352.** 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 512 MB memory unit is required.

Separate Options

There are three separate options: HDD, 512 MB memory and PS3.

- **HDD.** Provided with the Printer Unit and Printer/Scanner Unit. Refer to the illustration above. If an HDD has already been installed as a separate item, the HDD unit in the machine does not need to be replaced with the HDD from the kit.
- **512 MB memory.** Not provided with any option. However, the Printer Unit and Printer/Scanner Unit require installation of the 512 MB memory.
- **PostScript 3 Unit.** The PS3 option can be used with the Printer Unit or the Printer/Scanner Unit.

Enhance Option

The Scanner Enhance Option Type 3352 updates the Printer Unit by adding the advanced scanning features.

Kit Contents

Check the accessories and their quantities against the list below. 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.

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

	Description	Qty	Kit Contents		
			PU	P/S	SEO
1.	512 MB Memory*1	1	No	No	No
2.	HDD*2	1	Yes	Yes	No
3.	Screws	2	Yes	Yes	
4.	SD Card	1	Yes	Yes	Yes
5.	NA Keytop Set*3	1	Yes	Yes	Yes
	EU Keytop Set*3	1	Yes	Yes	Yes
6.	Ferrite Core	1	Yes	Yes	Yes

*1: The 512 Memory is a separate option and it is not provided in the kits. However, one memory unit is required for the installation of every print unit.

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

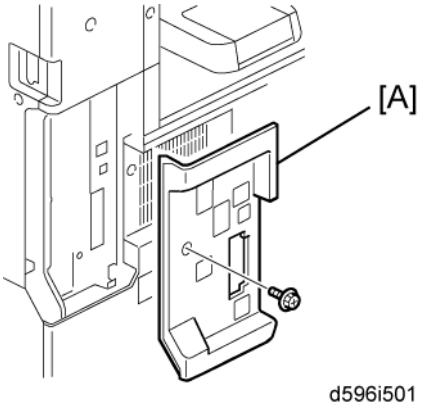
*3: The number of keytops provided varies:

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

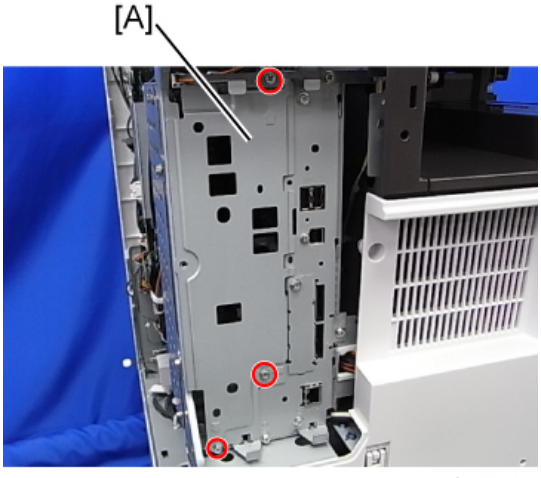
Printer, Printer/Scanner Unit Installation (For Basic Models)

⚠CAUTION

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

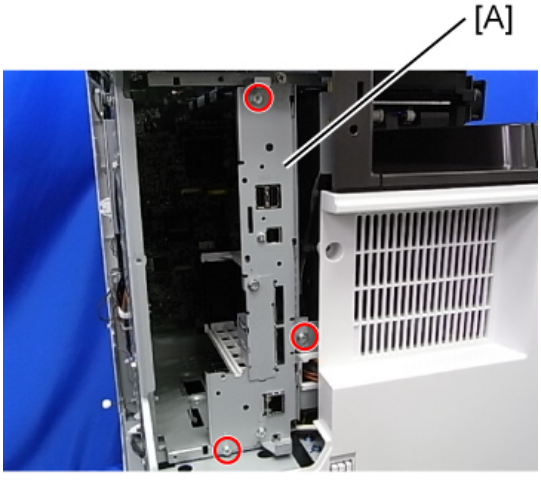


1. Remove the controller cover [A] (x1).



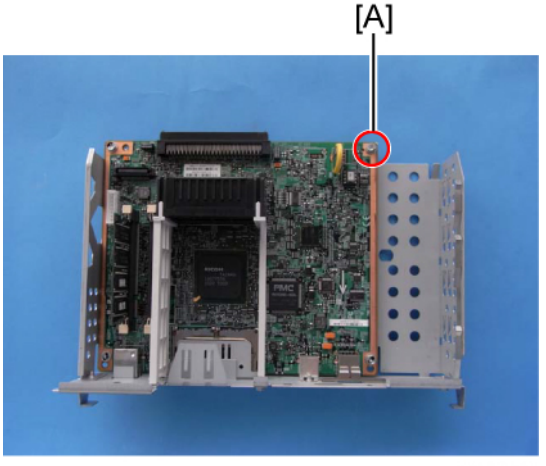
d120r144

2. Remove the FCU faceplate [A] (x3).



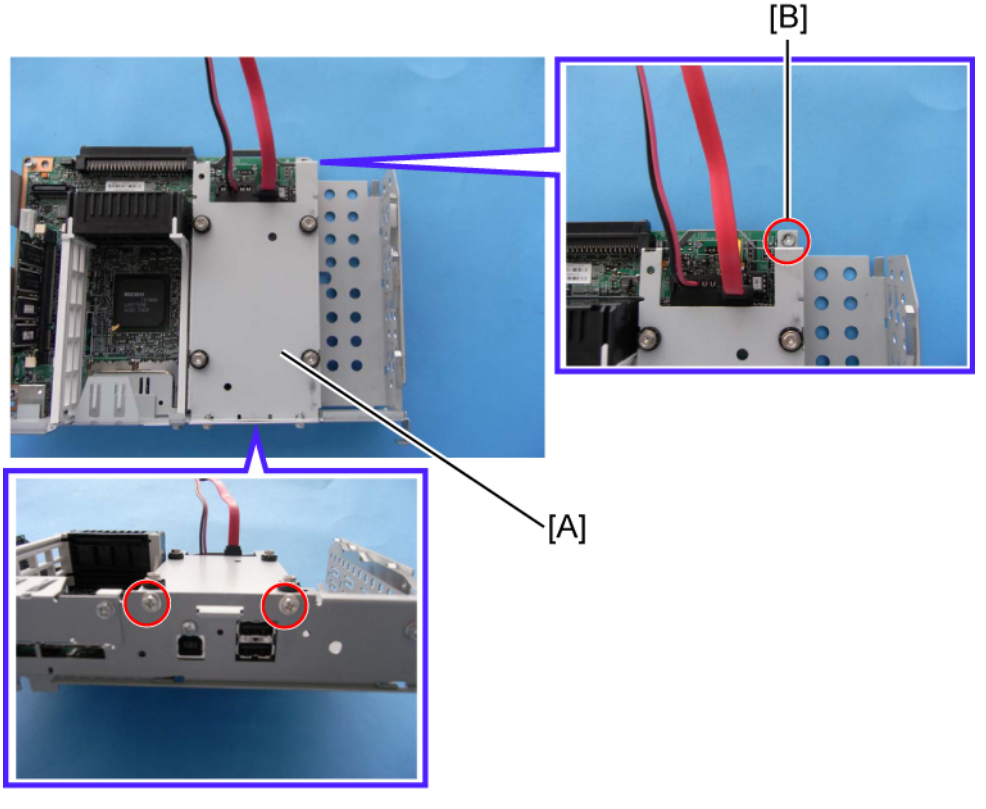
d120r145

3. Remove the controller board unit [A] (x3).



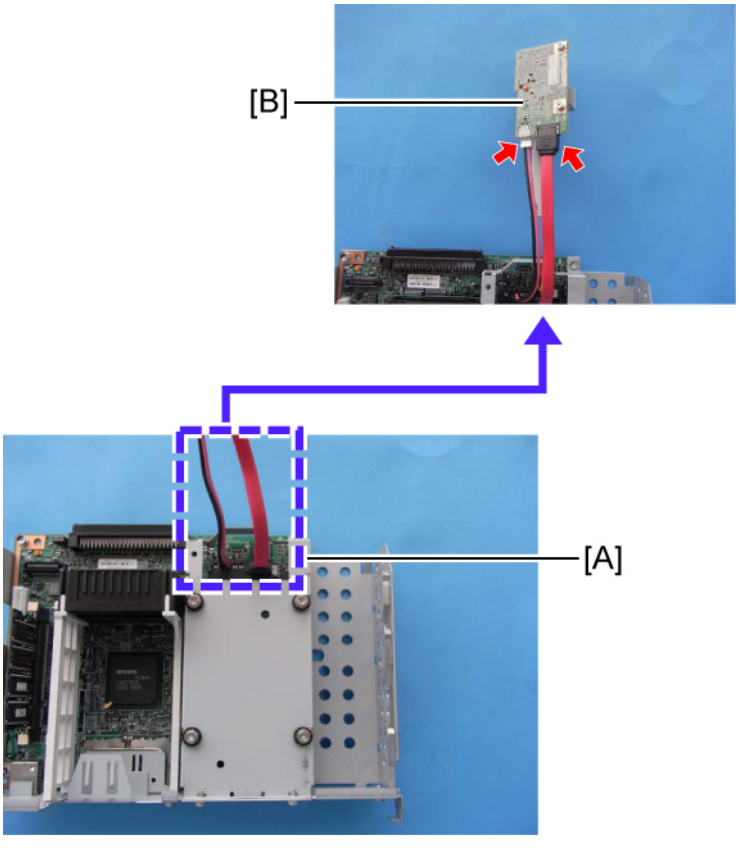
d120i509

4. Remove the screw [A] on the controller board.



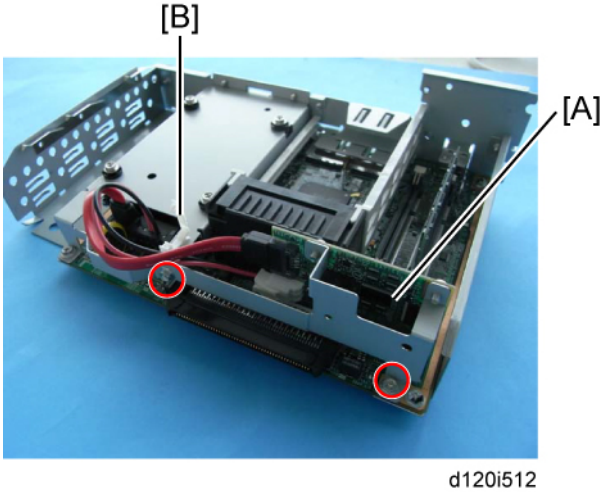
d120i510

5. Install the HDD unit [A] on the controller board unit (x 3). Use the screw removed in step 4 at [B].



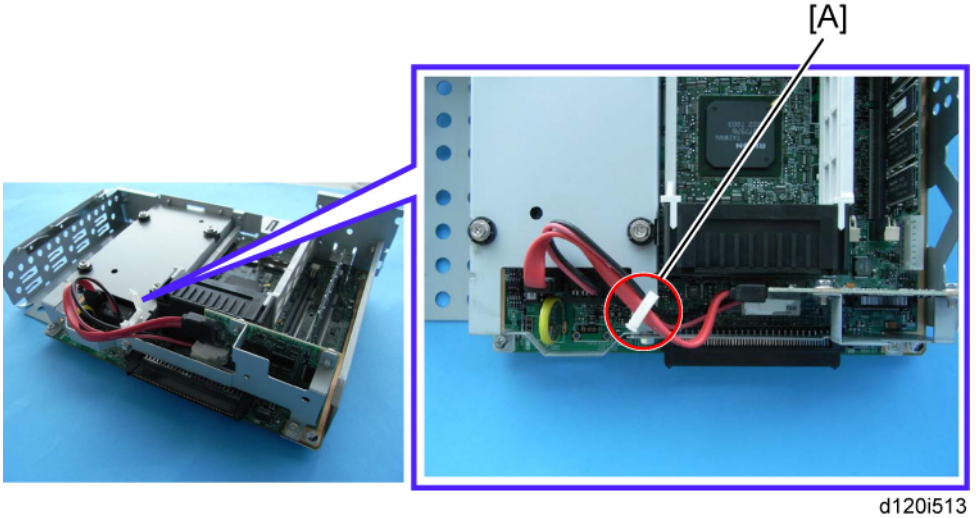
d120i511

6. Connect the two cables [A] from the HDD unit to the connecting board [B] (x 2).



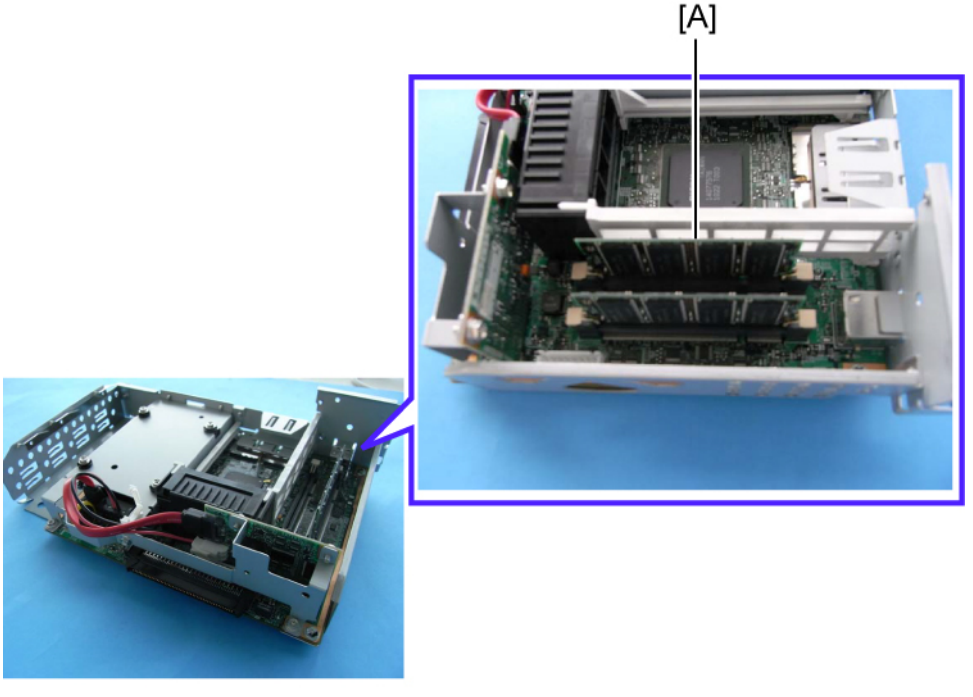
d120i512

7. Connect the connecting board unit [A] to the controller board (x 2).
8. Install the harness clamp [B] on the HDD unit.



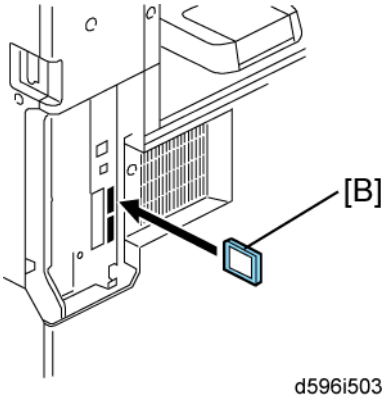
d120i513

9. Clamp the cables [A] to prevent them from sticking out.



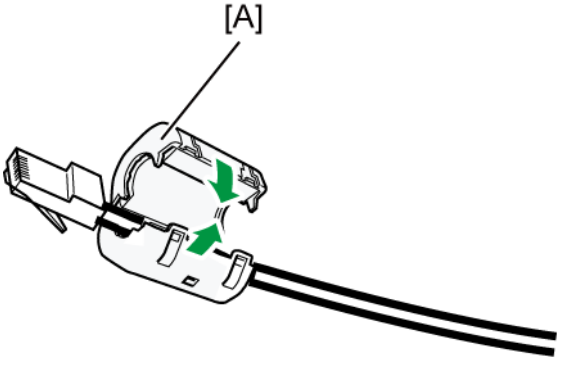
d596i104

10. Install the 512 MB memory [A].
11. Reinstall the controller board unit with the HDD.



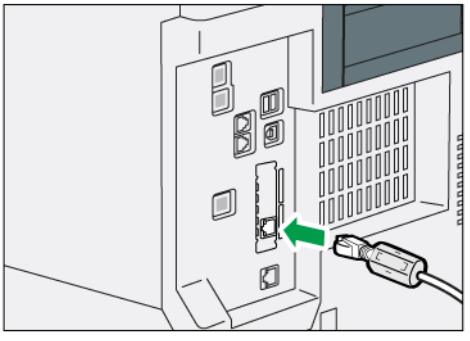
d596i503

12. Insert the SD card [B] in SD card Slot 1 or Slot 2.
13. Cycle the machine power off/on.
14. Format the HDD with SP5832-1.
15. Do SP5853 to copy the preset stamp data from the firmware to the hard disk.
16. Do SP5846-040 to copy the address book to the hard disk from the controller board.
17. Do SP5846-041 to let the user get access to the address book.
18. Reattach the controller cover (x1).



d596i508

19. Attach the supplied ferrite core [A] at the machine end of the Ethernet cable.



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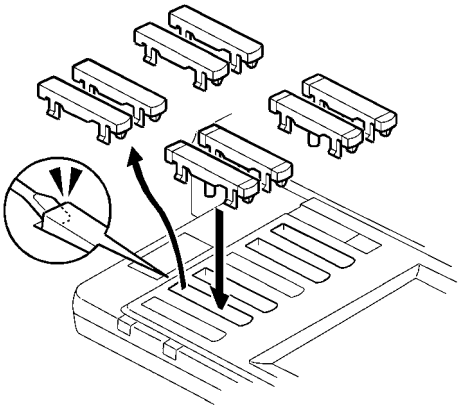
20. Connect the Ethernet interface cable to the 10BASE-T/100BASE-TX port.
21. Connect the other end of the Ethernet interface cable to a network connection device such as a hub.



d383i105

22. 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.

23. Replace the blank keytops with the keytops received in the kit from top to bottom:
    - 1st Copy
    - 2nd Document Server
    - 4th Printer
    - 5th Scanner
24. Connect the machine power cord and turn on the main power switch.
25. 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).

Important

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

Note

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

Scanner Enhance Option (For Basic Models)

Accessory Check

Refer to the "Common Accessory Table"

Installation

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

1. Turn off the main power switch.
2. Remove the cover (x1).
3. Confirm that the Printer Unit SD card is in SD Card Slot 1.
4. Put the option SD Card (Scanner Enhance Option) in SD Card Slot 2.
5. Turn on the main power switch.
6. Go into the SP mode and select SP5873-1.
7. Touch "Execute".
8. Obey the instructions on the display and touch "Execute" to start.
9. When the display tells you copying is completed, touch "Exit", then turn off the main power switch.
10. Remove the option SD card from SD Card Slot 2.
11. Turn on the main power switch.

12. Go into the User Tools mode and confirm that update was successful.

    User Tools> System Settings> Administrator Tools> Firmware Version> Next

13. Turn off the main power switch and reattach the SD card slot cover.
14. Return the copied SD card to the customer for safekeeping, or tape it to the faceplate of the controller.

To undo an option update

1. Turn off the main power switch.
2. Confirm that the Printer Unit SD card is in SD Card Slot 1.
3. Put the empty SD card (Scanner Enhance Option D595) in SD Card Slot 2.
4. Turn on the main power switch.
5. Go into the SP mode and do SP5873-2 (Undo Exec).
6. Obey messages on the operation panel to complete the procedure.
7. Turn off the main power switch.
8. Remove the restored SD card from SD Card Slot 2.
9. Turn on the main power switch.
10. Go into the User Tools mode and confirm that undo was successful.

    User Tools> System Settings> Administrator Tools> Firmware Version> Next

11. Turn off he main power switch again, then reattach the cover.

Important Notes About SD Cards

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

- The authentication data is moved with the application program to the target SD card.
- Once an application has been moved from the original SD card, the original SD card cannot be used unless the application is restored to the SD card with SP5873-2 (Undo Execute).
- SD cards must be stored in a safe location at the customer site. The empty SD card serves as proof of purchase and is the only evidence that the customer is licensed to use the application program.
- Before storing the card from which an application has been copied, label it carefully so that you can identify it easily if you need to do the undo procedure later.

If more than one application is required...

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

Important

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

SD Card Options	SD Card Size	Module Size
Printer Unit Type 3352	32 MB	8.3 MB
Printer/Scanner Unit Type 3352	32 MB	9.3 MB
Scanner Enhance Option Type 3352	16 MB	3 MB
PostScript3 Unit Type 3352	64 MB	14.6 MB
IPDS Unit Type 3352	32 MB	10.5 MB
Browser Unit Type E *1	32 MB	14.7 MB

*1: Browser Unit Type E cannot be moved to a 16MB SD card.

Installing Controller Options

1

IEEE 1284 Interface Board (B679)

Accessories

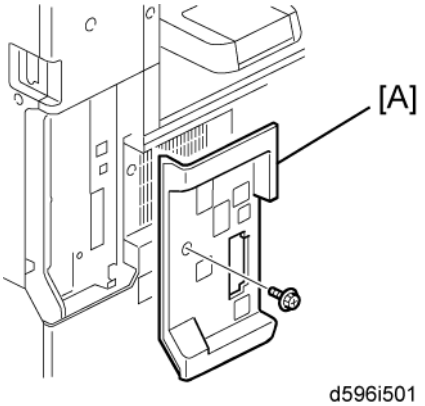
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	IEEE 1284 Interface Board B679	1

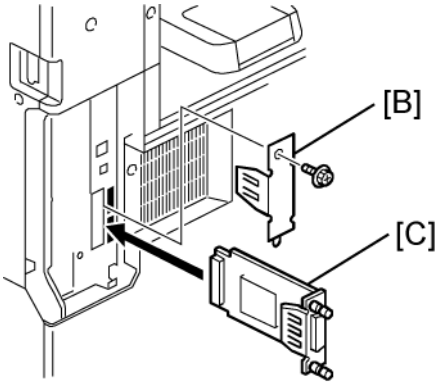
Installation

⚠CAUTION

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



1. Remove the controller cover [A] (x1).



d596i504

2. Remove the cover [B] of the board slot (x1).
3. Install the interface board [C] (x2 knob screws).

Note

- Use a screwdriver to tighten the knob-screws. Do not tighten manually, because this can disconnect the board.

4. Reattach the controller cover (x1).

Important

- **If a finisher other than the internal finisher is installed, remove it before you attach the parallel cable. Install the finisher again after you connect the parallel cable.**

IEEE 802.11a/g or g (D377)

Accessories

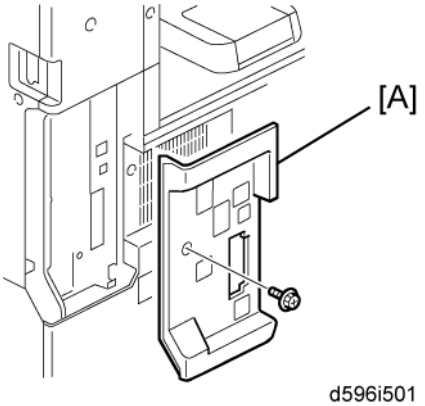
Check the accessories and their quantities against the following list:

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

Installation

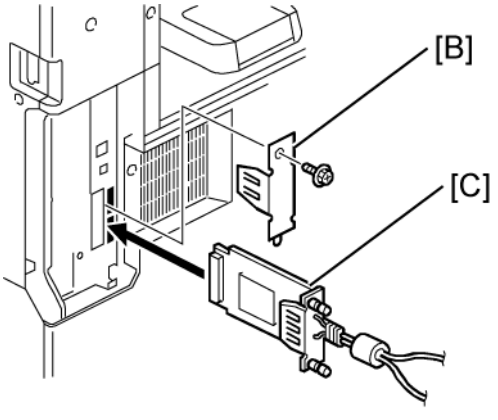
⚠CAUTION

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



d596i501

1. Remove the controller cover [A] (x1).



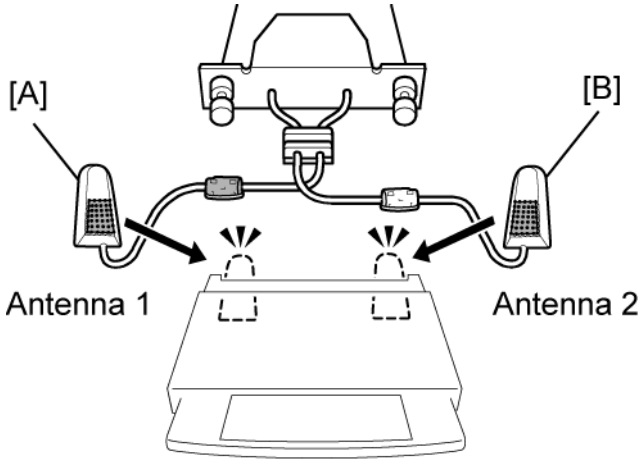
d596i505

2. Remove the cover [B] of the board slot (x1).
3. Insert the interface card [C] as shown above.

Note

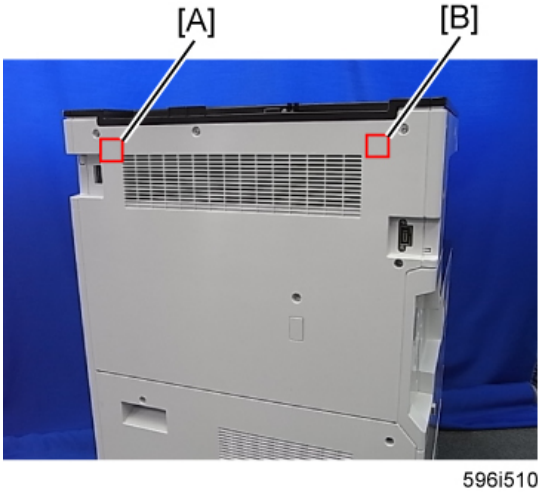
- Use a screwdriver to tighten the knob-screws. Do not tighten manually, because this can disconnect the board.

4. Look at the markings on the antenna bracket.
5. Look at the ferrite core of the antenna cable.



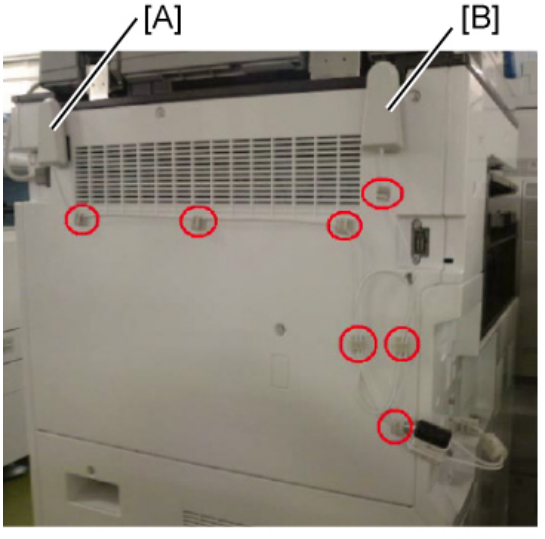
d596i509

- ANT1. Antenna 1 [A] transmits and receives. It must be installed on the left rear corner of the main machine. (The core on the Antenna 1 cable is black.)
- ANT2. Antenna 2 [B] only receives. It is installed on the right rear corner of the machine. (The core on the Antenna 2 cable is white.)



596i510

6. Peel off the double-sided tapes on the Velcro fasteners, and then attach them to the right rear [A] and left rear [B] of the machine.



d596i511

7. Attach Antenna 1 [B] to the left rear of the machine. (The core on the Antenna 1 cable is black.)
8. Attach Antenna 2 [A] to the right rear of the machine. (The core on the Antenna 2 cable is white.)
9. Attach the clamps as shown above.
10. Set the cables of Antenna 1 and Antenna 2 in the clamps and close them.

User Tool Settings for IEEE 802.11a/g

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

Note

- You cannot use IEEE 802.11a/g if you use Ethernet.

1. Press the "User Tools" key.
2. On the touch panel, touch "System Settings".

   Note

   - Select "Interface Settings"> "Network" > "LAN Type". The "LAN Type" (default: Ethernet) must be set for either Ethernet or wireless LAN.
3. Select "Interface Settings"> "Wireless LAN". Only the wireless LAN options show.
4. Set the "Communication Mode".
5. Enter the "SSID setting". (The setting is case sensitive.)
6. Set the "Ad-hoc Channel". You need this setting when Ad Hoc Mode is selected. The allowed range for the channel settings may vary for different countries.
   - Region A (mainly Europe and Asia)

Range: 1-13, 36, 40, 44 and 48 channels (default: 11)

Note

- In some countries, only the following channels are available:
- Range: 1-11 channels (default: 11)

- Region B (mainly North America)

  Range: 1-11, 36, 40, 44 and 48 channels (default: 11)

7. Set the “Security Method” to specify the encryption of the Wireless LAN.
   - 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.

     Range of Allowed Settings:

     64 bit: 10 characters

     128 bit: 26 characters

   - Specify “WPA” when “Communication Mode” is set to “Infrastructure Mode”. Set the “WPA Encryption Method” and “WPA Authent. Method”.
     - WPA Encryption Method:

       Select either "TKIP" or "CCMP (AES)".

     - WPA Authent. Method:

       Select either “WPA-PSK”, “WPA”, “WPA2-PSK", or “WPA2”.

       If you select “WPA-PSK” or “WPA2-PSK”, enter the pre-shared key (PSK) of 8 - 63 characters in ASCII code.

       When “WPA” or “WPA2” are selected, authentication settings and certificate installation settings are required.
8. Press “Wireless LAN Signal” to check the machine's radio wave status using the operation panel.
9. Press “Restore Factory Defaults” 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 Wireless LAN

The following SP commands and UP modes can be set for IEEE 802.11

1

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 008	Transmission Speed	Sets the transmission speed. Auto, 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps (default: Auto).
5840 011	WEP Key Select	Used to select the WEP key (Default: 00).
5840 023	WPA Key Select	Used to select the WPA encryption method. TKIP or CCMP
5840 024	WPA Authentication Select	Used to select the WPA authentication method. WPA, WPA-PSK, WPA2 or WPA2-PSK
5810 025	Pre-Shared Key	Used to set the pre-shared key (8 – 63 characters).
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.
	WPA Encryption Method	Used to confirm the current WPA encryption setting.
	WPA Authent. Method	Used to confirm the current WPA authentication setting and pre-shared key.

Bluetooth Unit (D566)

Accessories

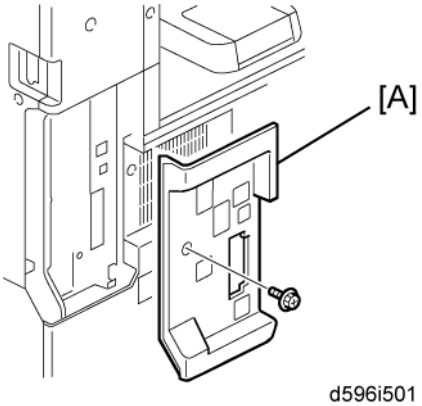
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	Bluetooth Interface Unit Type D (D566)	1

Installation

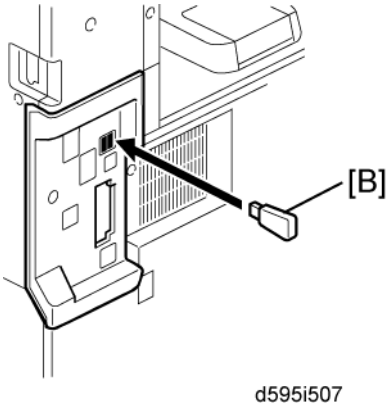
⚠CAUTION

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



d596i501

1. Remove the controller cover [A] (x1).



d595i507

2. Insert the Bluetooth unit [B] into one of the USB slots.

3. Make sure that the machine can recognize the option (see 'Check All Connections').

Note

- Bluetooth Unit and IEEE 802.11a/g or g Interface Unit cannot be set simultaneously.

PostScript 3 Unit (D595)

Accessories

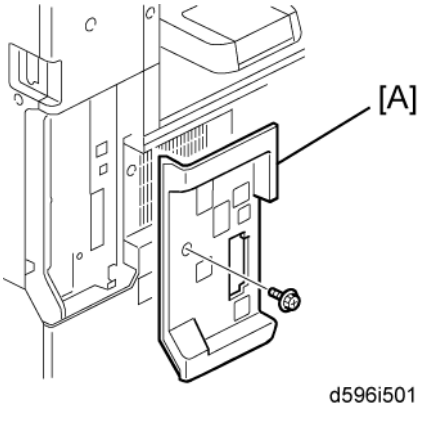
Check the accessories and their quantities against the following list:

No	Description	Quantity
1	PostScript 3 Emulation SD Card (D595)	1
2	Decal	1

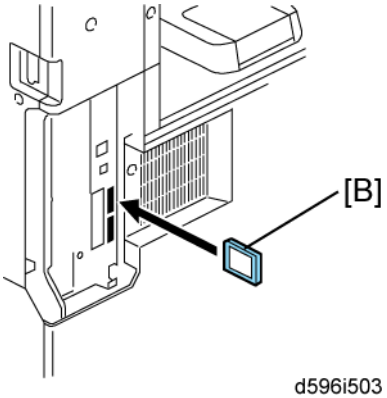
Installation

⚠CAUTION

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



1. Remove the controller cover [A] (x1).



d596i503

2. Insert the SD card [B] into SD Card Slot 1 or Slot 2.
3. Reattach the controller cover (x1).
4. Attach the "Adobe PostScript 3" decal to the front cover.

Gigabit Ethernet (G874)

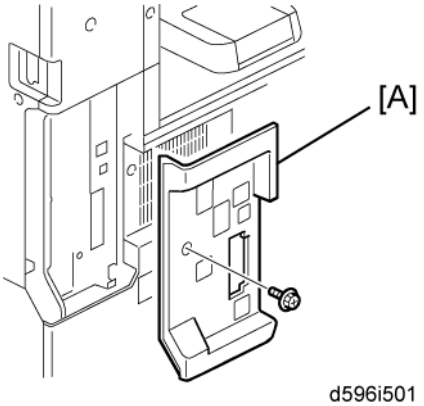
Accessories

Check the accessories and their quantities against the following list:

No	Description	Quantity
1	Gigabit Ethernet (G874)	1
2	Ferrite Core	1

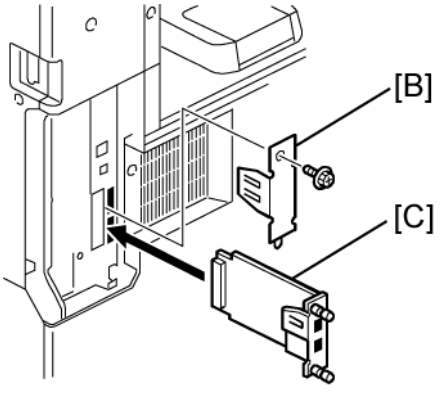
Installation

1. Switch the machine off.



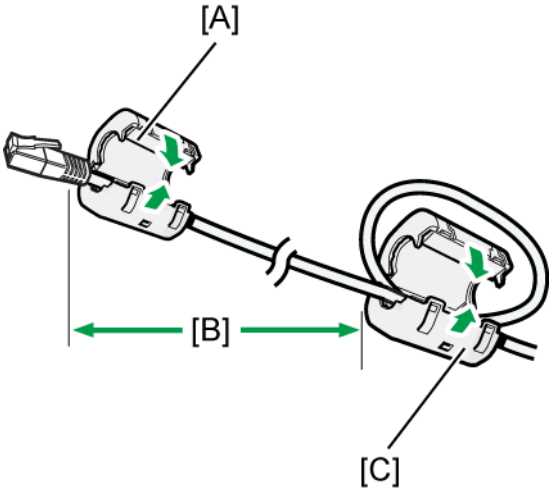
d596i501

2. Remove the controller cover [A] (x1).



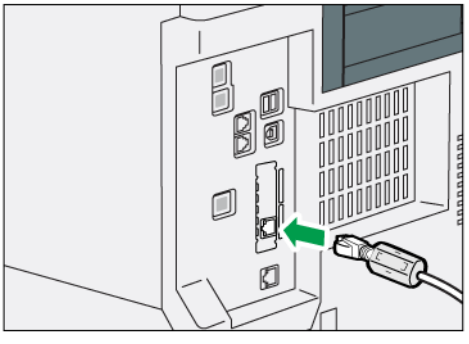
d596i506

3. Remove the board cover [B] (x 2).
4. Insert the Gigabit Ethernet Board [C] into the slot and fasten it with the screws.



d596i512

5. Attach the ferrite core [A] supplied with the machine to the machine end of the Ethernet cable. Make a loop about 10 cm (4 inch) [B] from the end and attach the ferrite core [C] supplied with the optional Gigabit Ethernet board.



d596i513

6. Connect the Ethernet interface cable to the 10BASE-T/100BASE-TX port.
7. Connect the other end of the Ethernet interface cable to a network connection device such as a hub.
8. Switch the machine on.
9. 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

IPDS Unit

1

Accessories

Check the accessories and their quantities against the table below.

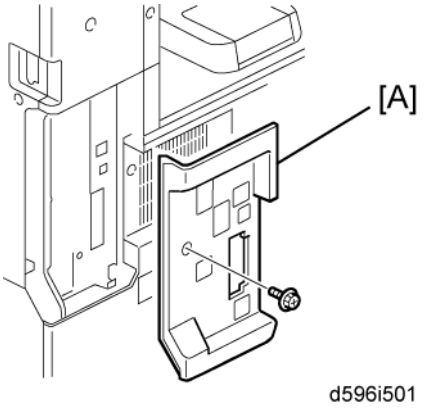
No.	Description	Q'ty
1	IPDS Emulation SD Card	1
2	Decal	1

Installation

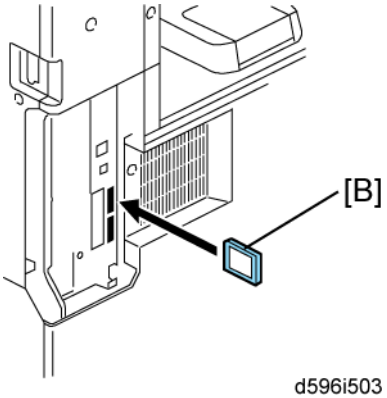
1. Check the software version.
    - Make sure the following versions are installed:

Firmware Name	Version	Firmware Number
System/Copy	**V1.13 or later**	**D0205331K**
NCS	V7.14 or later	D0205334B
Websys	V1.09 or later	D0205335B
Printer	V1.03 or later	D0205338D
IPDS	V4.732 or later	D0195336A

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



4. Remove the controller cover [A] (x1).



d596i503

5. Insert the IPDS SD card [B] into SD Card Slot 1 or Slot 2.

Important

- **Pushing in the SD Card releases it for removal. Make sure the SD Card is inserted and locked in place. If it is partially out of the slot, push it in gently until it locks in place.**

6. Reattach the cover and turn on the main power switch.
7. Do one of the following ("A" or "B") to enable the IPDS function.

A. [Enable the IPDS function via telnet]

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

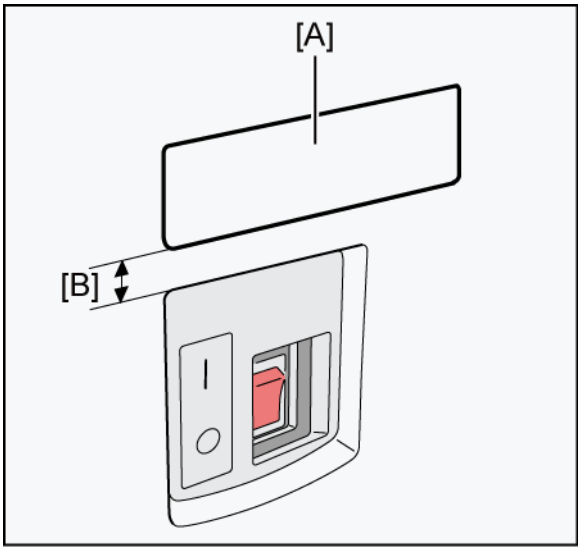
msh> **set ipds up**

***If you want to stop the function.

msh> **set ipds down**

B. [Enable the IPDS option via WebImageMonitor]

1. Log in to WebImageMonitor.
2. Change the setting to enable IPDS.



d596i514

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

Check All Connections

1. Connect the machine's power cord and turn on the main power switch.
2. Go into the printer user mode and print the configuration page.
   - User Tools> Printer Settings> List Test Print> Config. Page

Note

- The same data can also be printed with printer SP1-004 – Print Summary. All installed options are listed in the "System Reference" column.

2. Service Tables

Printer Service Tables

SP1-XXX (Service Mode)

1001	Bit Switch			
001	Bit Switch 1		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**No I/O Timeout**	0: Disable	1: Enable
		Enable: The MFP I/O Timeout setting will have no effect. I/O Timeouts will never occur.		
	bit 4	**SD Card Save Mode**	0: Disable	1: Enable
		Enable: Print jobs will be saved to an SD Card in the GW SD slot (☛ p.50 "Card Save Function").		
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	**[RPCS,PCL]: Printable area frame border**	0: Disable	1: Enable
		Enable: The machine prints all RPCS and PCL jobs with a border on the edges of the printable area.		

1001	Bit Switch

002	Bit Switch 2		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**Applying a collation Type**	Shift Collate	Normal Collate
		A collation type (shift or normal) will be applied to all jobs that do not already have a 'Collate Type' configured. **Note** • If #5-0 is enabled, this Bit Switch has no effect.		
	bit 3	**[PCL5e/c,PS]: PDL Auto Switching**	0: Enable	1: Disable
		Disable: The MFPs ability to change the PDL processor mid-job. Some host systems submit jobs that contain both PS and PCL5e/c. If Auto PDL switching is disabled, these jobs will not be printed properly.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch

003	Bit Switch 3		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	**[PCL5e/c]: Legacy HP compatibility**	0: Disable	1: Enable
		Enable: Uses the same left margin as older HP models such as HP4000/HP8000. In other words, the left margin defined in the job (usually "<ESC>*r0A") will be changed to "<ESC>*r1A"		
	bit 3	DFU	-	-
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	**Bit Switch**			
004	Bit Switch 4 **DFU**		0	1
	bit 0	DFU	-	-
	bit 1	DFU	-	-
	bit 2	DFU	-	-
	bit 3	**IPDS print-side reversal**	0: Disable	1: Enable
		Enable: Increases printing speed but simplex pages may be printed on the back side of the sheet.		
	bit 4	DFU	-	-
	bit 5	DFU	-	-
	bit 6	DFU	-	-
	bit 7	DFU	-	-

1001	Bit Switch		
005	Bit Switch 5	0	1

	bit 0	**Show "Collate Type", "Staple Type" and "Punch Type" buttons on the operation panel.**	Disable	Enable
		If enabled, users will be able to configure a Collate Type, Staple Type, and Punch Type from the operation panel. The available types will depend on the device and configured options. After enabling the function, the settings will appear under: "User Tools > Printer Features > System"		
	bit 1	**Multiple copies if a paper size or type mismatch occurs**	0: Disable (Single copy)	1: Enable (Multiple copy)
		If a paper size or type mismatch occurs during the printing of multiple copies, only a single copy is output by default. Using this Bit Switch, the device can be configured to print all copies even if a paper mismatch occurs.		
	bit 2	DFU	-	-
	bit 3	**[PS] PS Criteria**	Pattern3	Pattern1
		Change the number of PS criterion used by the PS interpreter to determine whether a job is PS data or not. Pattern3: includes most PS commands. Pattern1: A small number of PS tags and headers		
	bit 4	**Increase max number of the stored jobs to 1000 jobs.**	Disable (100)	Enable (1000)
		Enable: Changes the maximum number of jobs that can be stored on the HDD via Job Type settings to 1000. The default is 100.		
	bit 5	DFU	-	-
	bit 6	**Method for determining the image rotation for the edge to bind on.**		
	bit 7	If enabled, the image rotation will be performed as they were in the specifications of older models for the binding of pages of mixed orientation jobs. The old models are below: - PCL: Pre-04A models - PS/PDF/RPCS:Pre-05S models	0: Disable	1: Enable
		Letterhead mode printing		

1001	Bit Switch		
006	Bit Switch 6 **DFU**	-	-

1001	Bit Switch			
007	Bit Switch 7		0	1
	bit 0	**Print path**	0: Disable	1: Enable
		If enabled, simplex pages (in mixed simplex/duplex PS/PCL5 jobs only) and the last page of an odd paged duplex job (PS, PCL5, PCL6), are always routed through the duplex unit. Not having to switch paper paths increases the print speed slightly.		
	bit 1 to 7	DFU	-	-

1001	Bit Switch			
008	Bit Switch 8 **DFU**		-	-

1001	Bit Switch			
009	Bit Switch 9		0	1
	bit 0	**PDL Auto Detection timeout of jobs submitted via USB or Parallel Port (IEEE 1284).**	"Disabled (Immediately)"	"Enabled (10 seconds)"
		To be used if PDL auto-detection fails. A failure of PDL autodetection doesn't necessarily mean that the job can't be printed. This bit switch tells the device whether to time-out immediately (default) upon failure or to wait 10 seconds.		
	bit 1	DFU	-	-

	bit 2	**Job Cancel**	Disabled (Not cancelled)	Enabled (Cancelled)
		If this bit switch, all jobs will be cancelled after a jam occurs. Note: If this bitsw is enabled, printing under the following conditions might result in problems: - Job submission via USB or Parallel Port - Spool printing (WIM >Configuration > Device Settings > System)		
	bit 3	**PCL/PS bypass tray paper rotation (SEF/LEF)**	0: Disable	1: Enable
		This bitsw causes the device to revert to the behavior of previous generations. It only takes effect if "Bypass Tray Setting Priority" = "Driver/Command". Previous spec (bitsw=1): If a standard sized paper mismatch occurred in the bypass tray, the MFP always prompted for SEF paper. If this bitsw=0 (default) then in the event of a standard sized paper mismatch, the MFP will always prompt for paper of the rotation (SEF/LEF) determined by the MFP bypass tray paper setting or by the bypass tray sensor.		
	bit 4	**Response to PJL USTATUS when multiple collated copies are printed**	0: Disable	1: Enable
		When enabled, if multiple collated copies are printed, the device no longer responds to PJL USTATUS with the number of pages in the current copy. Instead the device will return the total number of pages for all copies.		
	Bit 5 to 7	DFU	-	-

1003	[Clear Setting]
1003 1	Initialize Printer System
	Initializes settings in the "System" menu of the user mode.
1003 3	Delete Program

1004	[Print Summary]
1004 1	Print Summary
	Prints the service summary sheet (a summary of all the controller settings).

1005	[Display Version]
1005 1	Disp. Version
	Displays the version of the controller firmware.

1006	[Sample/Locked Print]	*CTL	0: Linked, 1: On
1006 1	Enables and disables the document server. When you select "0," the document server is enabled or disabled in accordance with Copy Service Mode SP5-967. When you select "1," the document server is enabled regardless of Copy Service Mode SP5-967.		

1110	**[Media Print]**	
1110 002	0: Disable 1: Enable	Selects the setting for the media print device.

Scanner Service Tables

SP1-xxx (System and Others)

1004	**[Compression Type]**		
	Selects the compression type for binary picture processing.		
1004 1	Compression Type	*CTL	[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. This SP is activated only when the machine uses TWAIN scanning.		
1005 1	Range from 0 to 5 mm	*CTL	[0 to 5 / **0** / 1 mm/step]

1009	**[Remote scan disable]**	*CTL	[0 or 1 / **0** / -] 0: enable, 1: disable
1009 1	Enable or disable remote scan.		

1010	**[Non Display Clear Light PDF]**	*CTL	[0 or 1 / **0** / -] 0: Display, 1: No display
1010 1	Enable or disable remote scan.		

SP2-XXX (Scanning-image quality)

2021	**[Compression Level (Gray-scale)]**
	Selects the compression ratio for grayscale processing mode (JPEG) for the three settings that can be selected at the operation panel.

2021 1	Level 3 (Middle Image Quality)	*CTL	[5 to 95 / **40** / 1 /step]
2021 2	Level 2 (High Image Quality)		[5 to 95 / **50** / 1 /step]
2021 3	Level 4 (Low Image Quality)		[5 to 95 / **30** / 1 /step]
2021 4	Level 1 (Highest Image Quality)		[5 to 95 / **60** / 1 /step]
2021 5	Level 5 (Lowest Image Quality)		[5 to 95 / **20** / 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.		
2024 1	Compression Ratio (Normal image)	*CTL	[5 to 95 / **25** / 1 /step]
2024 2	Compression Ratio (High comp image)		[5 to 95 / **20** / 1 /step]

Card Save Function

Overview

Card Save:

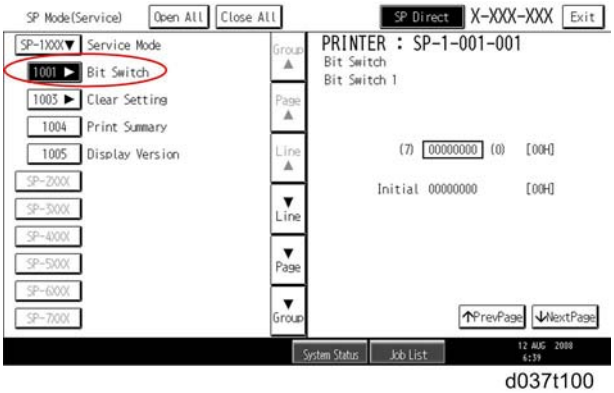
- The Card Save function is used to save print jobs received by the printer on an SD card with no print output. Card Save mode is toggled using printer Bit Switch #1 bit number 4. Card Save will remain enabled until the SD card becomes full, or until all file names have been used.
- Captures are stored on the SD card in the folder /prt/cardsave. File names are assigned sequentially from PRT00000.prn to PRT99999.prn. An additional file PRT.CTL will be created. This file contains a list of all files created on the card by the card save function.
- Previously stored files on the SD card can be overwritten or left intact. Card Save SD has “Add” and “New” menu items.
  - **Card Save (Add):** Appends files to the SD Card. Does not overwrite existing files. If the card becomes full or if all file names are used, an error will be displayed on the operation panel. Subsequent jobs will not be stored.
  - **Card Save (New):** Overwrites files in the card's /prt/cardsave directory.

Limitation:

- Card Save cannot be used with PJL Status Readback commands. PJL Status Readbacks will not work. In addition they will cause the Card Save to fail.

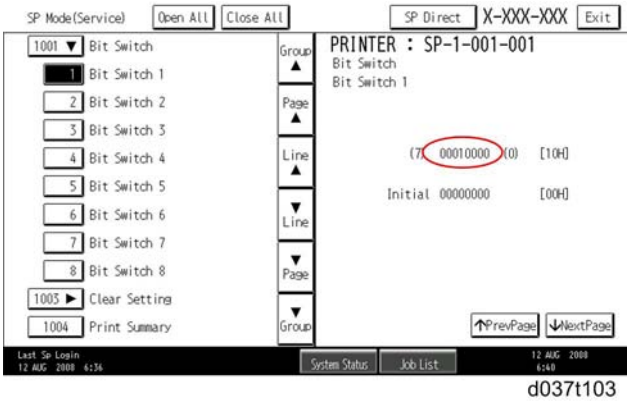
Procedure

1. Turn off the main power switch.
2. Insert the SD card into slot 2. Then turn on the main power switch.
3. Enter SP mode.
4. Select the “Printer SP”.
5. Select SP-1001 "Bit Switch”.



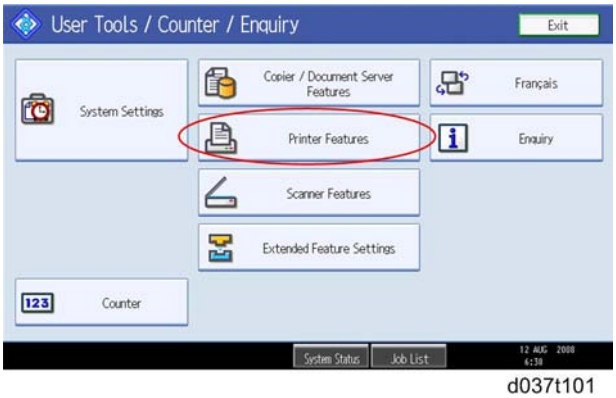
d037t100

6. Select “Bit Switch 1 Settings” and use the numeric keypad to turn bit 4 ON and then press the “#” button to register the change. The result should look like: **00010000**. By doing this, Card Save option will appear in the “List/Test Print” menu.



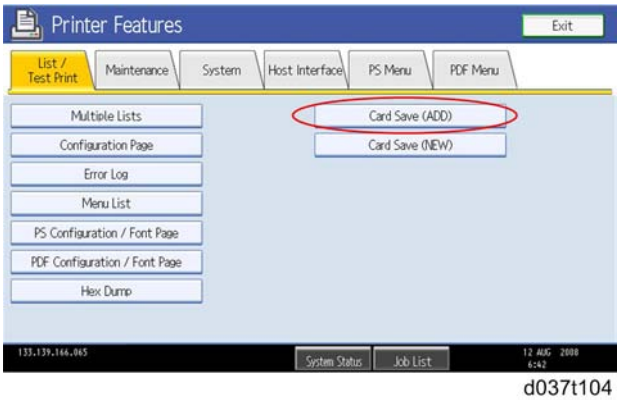
d037t103

7. Press “Exit” to exit SP Mode.
8. Press the “User Tools/Counter” button.
9. Select “Printer Features”.



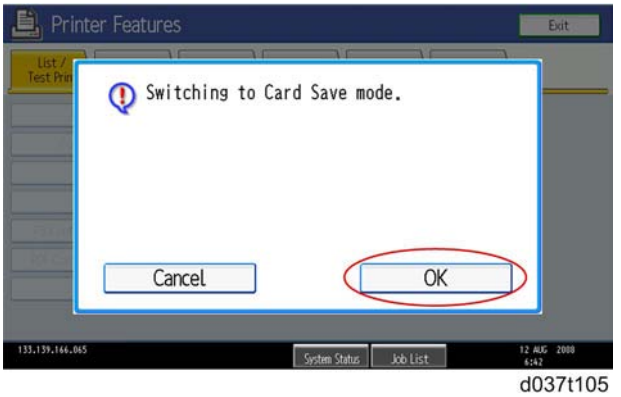
d037t101

10. Card Save (Add) and Card Save (New) should be displayed on the screen. Select Card Save (Add) or Card Save (New).



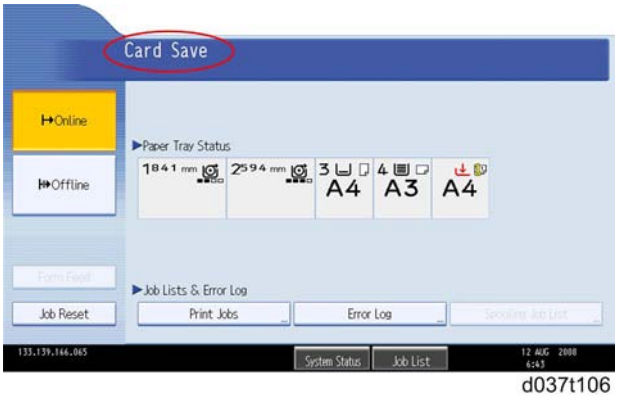
d037t104

11. Press "OK" and then exit the "User Tools/Counter" menu.



d037t105

12. Press the "Printer" button.
13. Card Save should be displayed in the top left of the display panel.



d037t106

14. Send a job to the printer. The Communicating light should start blinking as shown below.

d596i507

15. As soon as the printer receives the data, it will be stored on the SD card automatically with no print output. Nothing is displayed on the screen, indicating that a Card Save operation was successful.
16. Press "Offline" and then the "Clear/Stop" button to exit Card Save mode.

d037t106a

17. Change the Bit Switch Settings back to the default **00000000**. Press the "#" button in the numeric keypad to register the changes.
18. Remove the SD card after the main power switch is turned off.

Error Messages

Card Save error messages:

- **Init error:** A card save process (i.e. card detection, change to kernel mode) failed to initialize.
- **Card not found:** Card cannot be detected in the slot.
- **No memory:** Insufficient working memory to process the job.
- **Write error:** Failed to write to the card.
- **Other error:** An unknown error occurred.

If an error occurs, pressing "OK" will cause the device to discard the job and return to the ready state.

3. Specifications

Printer Specifications

Printer Languages:	PCL 6/5e PDF Direct Adobe PostScript 3 (optional) IPDS (optional) MediaPrint: JPEG/TIFF (optional)
Resolution and Gradation:	PCL 5e: 300 x 300 dpi 600 x 600 dpi : Fast (1-bit) PCL 6: 600 x 600 dpi : Fast (1-bit) PDF Direct: 300 x 300 dpi/600 x 600 dpi PS3: 300 x 300 dpi/600 x 600 dpi XPS: 600 x 600 dpi : Fast (1-bit) IPDS: 300 x 300 dpi/ 600 x 600 dpi
Printing speed:	C1a: 23 ppm C1b: 28 ppm C1c: 33 ppm

Resident Fonts:	PCL 6/5e (Standard): 45 Compatible fonts 13 International fonts 6 Bitmap fonts Adobe PostScript 3 (Optional): 136 fonts IPDS (Optional): 108 fonts
Host Interfaces:	USB2.0 Type A and Type B: Standard Ethernet (100 Base-TX/10 Base-T): Standard Gigabit Ethernet (1000 Base-T): Optional IEEE1284 parallel x 1: Optional IEEE802.11a/b/g (Wireless LAN): Optional Bluetooth (USB type): Optional
Network Protocols:	TCP/IP (IPv4, IPv6), IPX/SPX

USB Specifications

USB connectivity is built into the controller.

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

IEEE 802.11a/b/g Specifications

Standard applied	IEEE802.11a/b/g
Network protocols	TCP/IP, Apple Talk, NetBEUI, IPX/SPX, SMB
Frequency range (Center Frequency) (US model)	• 2412 - 2462 MHz (1-11 channels) • 5180 - 5320 MHz (36, 40, 44, 48, 52, 56, 60, and 64 channels)
Frequency range (Center Frequency) (EU model)	• 2412 - 2472 MHz (1-13 channels) • 5180 - 5320 MHz (36, 40, 44, 48, 52, 56, 60, and 64 channels)

Bluetooth Specifications

Transmission Specifications	Based on Bluetooth Ver2.0+EDR
Transmission Speed	• Asynchronous Communication : Approximately 2.1 Mbps (Max) • Synchronous Communication : Approximately 1.3 Mbps (Max)
Profile	Hard Copy Cable Replacement Profile (HCRP), Serial Port Profile (SPP), Basic Imaging Profile (BIP)

Scanner Specifications

Standard Scanner Resolution:	Main scan/Sub scan 600 dpi
Available scanning Resolution Range:	Twain Mode: 100 to 1200 dpi Delivery Mode: 100/200/300/400/600 dpi
Grayscales:	1 bit or 8 bits/pixel each for RGB
Scanning Throughput (ARDF mode):	BW: 50 ipm (A4LEF / BW Text/ Photo / 200dpi /Compression: On (MH)) FC: 29 ipm (A4LEF / FC Text / Photo / 200dpi / Compression: Standard)
Interface:	Ethernet 10Base-T / 100Base-TX, Gigabit Ethernet (1000Base-T), Wireless LAN (IEEE 802.11a/b/g)
Compression Method:	B&W: TIFF (MH, MR, MMR), Gray Scale Full Color: JPEG

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 XP, Server 2003, Vista, Server 2008, 7	Mac OS X 10.2 or later
PCL 6	Yes	No
PCL 5e	Yes	No
PS3	Yes	Yes
RPCS	No	No

Utility Software

Software	Description
Agfa Monotype Font Manager 2000 (Win XP, Vista)	A font management utility with screen fonts for the printer.

Scanner

The scanner driver is provided on one CD-ROM.

Scanner Driver

- Network Twain Driver for Win XP/Server 2003/Vista/Server 2008/7

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