

# Service Manual

## Canon Color **Voic Guidance Kit-A2**

**Canon**



## Application

This manual has been issued by Canon Inc. for qualified persons to learn technical theory, installation, maintenance, and repair of products. This manual covers all localities where the products are sold. For this reason, there may be information in this manual that does not apply to your locality.

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## Caution










Use of this manual should be strictly supervised to avoid disclosure of confidential information.

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# Symbols Used



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This documentation uses the following symbols to indicate special information:

Symbol	Description
	Indicates an item of a non-specific nature, possibly classified as Note, Caution, or Warning.
	Indicates an item requiring care to avoid electric shocks.
	Indicates an item requiring care to avoid combustion (fire).
	Indicates an item prohibiting disassembly to avoid electric shocks or problems.
	Indicates an item requiring disconnection of the power plug from the electric outlet.
 Memo	Indicates an item intended to provide notes assisting the understanding of the topic in question.
 REF.	Indicates an item of reference assisting the understanding of the topic in question.
	Provides a description of a service mode.
	Provides a description of the nature of an error indication.

The following rules apply throughout this Service Manual:

1. Each chapter contains sections explaining the purpose of specific functions and the relationship between electrical and mechanical systems with reference to the timing of operation.

In the diagrams,  represents the path of mechanical drive; where a signal name accompanies the symbol, the arrow  indicates the direction of the electric signal.

The expression "turn on the power" means flipping on the power switch, closing the front door, and closing the delivery unit door, which results in supplying the machine with power.

2. In the digital circuits, '1' is used to indicate that the voltage level of a given signal is "High", while '0' is used to indicate "Low". (The voltage value, however, differs from circuit to circuit.) In addition, the asterisk (\*) as in "DRMD\*" indicates that the DRMD signal goes on when '0'.

In practically all cases, the internal mechanisms of a microprocessor cannot be checked in the field. Therefore, the operations of the microprocessors used in the machines are not discussed: they are explained in terms of from sensors to the input of the DC controller PCB and from the output of the DC controller PCB to the loads.

The descriptions in this Service Manual are subject to change without notice for product improvement or other purposes, and major changes will be communicated in the form of Service Information bulletins.

All service persons are expected to have a good understanding of the contents of this Service Manual and all relevant Service Information bulletins and be able to identify and isolate faults in the machine."



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## Chapter 1 Specifications

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## 1.1 Specifications

### 1.1.1 Memory Size and Functional Constraints(EUR)iR C3170/C2570

0010-4582

The memory size of the iR C3170/C2570 engine may be any of the following depending on the selected combination: 512 MB, 768 MB (512 MB + 256 MB), 1024 MB (512 MB + 512 MB).

An appropriate amount of memory must be available to suit the installed options. If the engine is equipped with a maximum amount of memory (1024 MB), installation of multiple options will be possible. The following table shows the expected iRC engine models and the sizes of memory required for the installation of individual options:

	Model	non/ Send Note1)	FAX 1line	FAX 2lines	HDD encryption+full deletion USB Application I/F Board	Web Access	FAX1/2lines HDD encryption+full deletion USB Application I/F Board Web Access	PDF High Compression Note1)	Send PDF High Compression PDF Encryption FAX1/2lines HDD encryption+full deletion USB Application I/F Board Web Access	
1	Meap	512	512	768	768	768	768	768	768	
2	UFR II+Meap		768				1024		1024	
3	UFR II+PDF Direct Printing	1024							768	768
4	UFR II+PCL+PS+PDF Direct Printing									
5	imagePASS-F1/Color Network Printer Unit- F1									

#### Note1:

Previous models include high-compression PDF as part of their SEND function. In this model, the functions of the PDF High Compression Kit-A1 (of the Color Universal SEND Kit-D1) have solely been made an independent option.

To validate the license information of the Color Universal SEND Kit-D1, there must be as much as 512 MB or more of memory.

To validate the license information of the PDF High Compression Kit-A1, there must be as much as 768 MB or more of memory.

The Color Universal SEND Kit-D1 and the PDF High Compression Kit-A1 are each independent options, and may therefore be used on their own.

The PDF High Compression Kit-A1 can also be used in combination with a MEAP application, and they must be used independently.

The following shows minimum memory requirements for options other than the above:

Soft Option	
512MB	Color Universal Send Kit-D1 Encrypted Printing Software-A2
768MB	PDF High Compression Kit-A1 Universal Send PDF Encryption Kit-B1 Universal Send Searchable PDF Kit-A1 Web Access Software-B1 Remote Operators Software Kit-A1 iR Security Kit-A2(HDD encryption+full deletion)
1024MB	Direct Printing Kit-D1 Barcode Printing Kit-A1

Hard Option	
512MB	Super G3 FAX Board-S1 EUR(FAX 1 line) Security Expansion Board-E1(HDD encryption+full deletion)
768MB	Super G3 Multi-Line FAX Board-F1(FAX 2 lines) Voic Guidance Board-A2
1024MB	imagePASS-F1/Color Network Printer Unit-F1



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## Chapter 2 Functions

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## 2.1 New Function

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### 2.1.1 Overview

0010-4662

#### **Background of Product Development**

The audio guide on the control panel has been designed to assist people with no sight or limited sight in keeping with the provisions of the Disabilities Act. Care has also been taken so that people in general may take advantage of the function for extra help without feeling anything out of the ordinary. In this sense, the function is expected to add to the ease of use of the machine for general and handicapped users alike.

#### **Flow of Voice Generation**

The machine's digital voice consists of discrete signals generated by controller system files stored on its hard disk. These signals are sent from the controller board to the audio board by way of a PCI bus in appropriate sequence.

When they reach the audio board, the signals are merged so that each segment has a specific duration. The result is then subjected to digital-to-analog conversion and sent to the speaker after volume control.

#### **Slide Switch (SW1) on the Voice Guidance Board-A2**

The slide switch (SW1) on the Voice Guidance Board-A1 is provided as a means of switching frequencies (33 MHz/66 MHz) to suit the transfer speed of the PCI bus. It is important for the switch setting to suit the transfer speed so that the voice will be free of interruption. If you inadvertently moved the slide, be sure to put it back to its correct position. For the iR C3170/C2570, the frequency must be set to 66 MHz.

### 2.1.2 Using the Function

0010-4663

#### **Preparing the Machine for Audio Guide Mode**

For details, see the instructions on installation. The following is an outline of the work.

1. Make sure that the machine is off, and fit the Voice Guidance Board-A2 into the PCI bus.  
(Be sure there is at least 768 MB of memory.)
2. Connect the speaker to Line-Out of the Voice Guidance Board-A2, and turn on the machine.

To check to see if the machine has recognized the presence of the Voice Guidance Board-A2,

start service mode (by pressing the User Mode key, the 2 and 8 keys at the same time, and then the User Mode key once again).

Then, make the following selections: COPIER>DISPLAY>ACC-STS

If the notation 'Voice Board' is indicated in PC11, the machine has recognized the presence of the board.

### 2.1.3 Changing the Language

0010-4664

Make the following selections in user mode: common setup>change display language.

If the setting is 'OFF', change it to 'ON' and select Japanese for Japanese screens and voice guide or English for English screens and voice guide.



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## Chapter 3 Installation

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## 3.1 Points to Note About Installation

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### 3.1.1 Points to Note About Installation

0009-9966

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iR6570/5570 Series



Before starting to install the Voice Guidance Kit, be sure that the Expansion Bus C-1 has properly been installed.

iR C3170/2570



When installing this product to the host machine, additional memory needs to be installed depending on the host machine model. For more information, see "System Configuration" in "Specifications" in the host machine Service Manual.

iR 4570/3570 Series, iR 2870/2270 Series



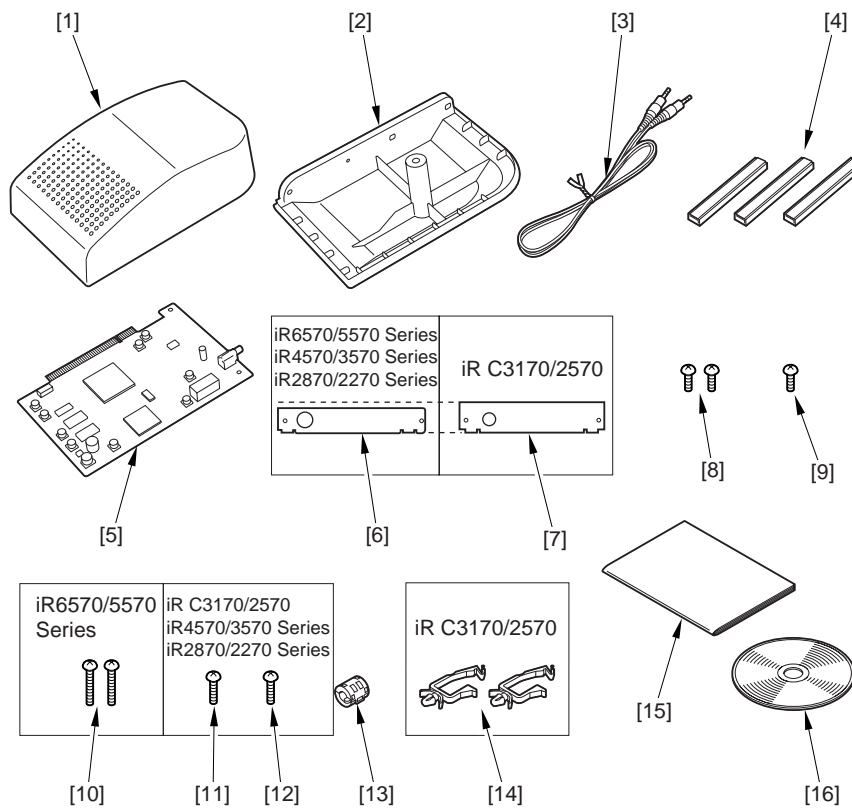
Before starting to install the Voice Guidance Kit, be sure that the Expansion Bus B-1 has properly been installed.

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### 3.2 Doukoun kakuninn

#### 3.2.1 Checking Items in the Package

0009-9970



F-3-1

T-3-1

[1]	Speaker unit (upper)	1 pc.
[2]	Speaker unit (lower)	1 pc.
[3]	Cable	1 pc.
[4]	Cord guide	3 pc.
[5]	Voice Guidance Board	1 pc.
[6]	Voice Guidance Board Face Plate (used for the iR6570/5570 Series,iR 4570/3570 Series,iR 2870/2270 Series)	1 pc.
[7]	Voice Guidance Board Face Plate (used for the iR C3170/2570)	1 pc.
[8]	Binding screw (M3X6)	2 pc.
[9]	Binding screw (M4X6)	1 pc.
[10]	Binding screw (M3X40) (used for the iR6570/5570 Series)	2 pc.
[11]	Binding screw (M3X16) (used for the iR C3170/2570,iR 4570/3570 Series,iR 2870/2270 Series)	1 pc.
[12]	Binding screw (M4X16) (used for the iR C3170/2570,iR 4570/3570 Series,iR 2870/2270 Series)	1 pc.
[13]	Ferrite core	1 pc.
[14]	Clamp (used for the iR C3170/2570)	2 pc.
[15]	Users Guide	1 pc.
[16]	User Manual CD-ROM	1 pc.

## 3.3 Installation Procedure

### 3.3.1 Installation Procedure (iR6570/5570 Series)

0009-9971

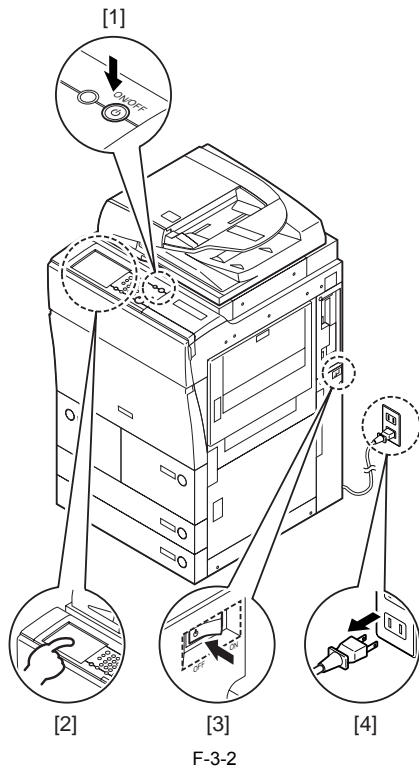
#### 1. Turning Off the Host Machine



##### Turning Off the Main Power

When turning off the main power, be sure to go through the following in strict sequence to protect the machine's hard disk:

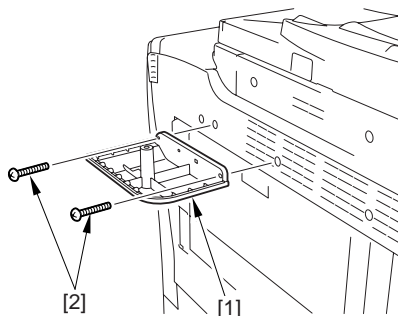
- [1] Hold down on the power switch on the control panel for 3 sec or more.
- [2] Operate on the touch panel according to the shut-down sequence indicated so that the main power switch may be turned off.
- [3] Turn off the main power switch.
- [4] Disconnect the power cable (for the power outlet).



F-3-2

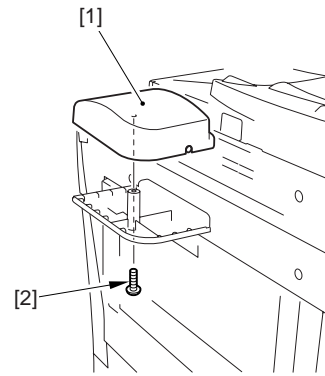
#### 2. Mounting the Speaker Unit

- 1) Mount the speaker unit lower cover [1] to the machine's right cover using the 2 included screws (M4X40) [2].



F-3-3

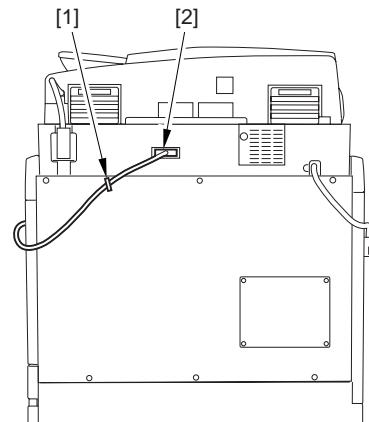
- 2) Mount the speaker unit upper cover [1] to the speaker unit lower cover you mounted in step 1); then, secure it in place from under using the included screw (M4X6) [2].



F-3-4

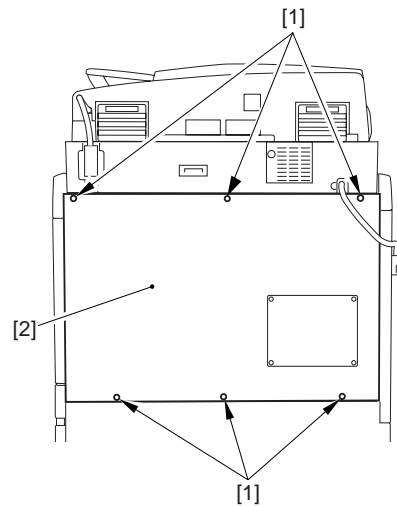
#### 3. Mounting the Voice Guidance Board

- 1) Open the cable clamp [1], and disconnect the reader communications cable [2].



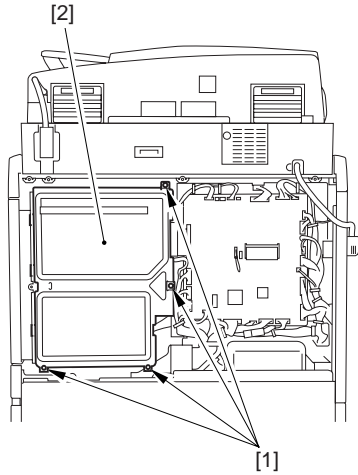
F-3-5

- 2) Remove the 6 screws [1], and detach the upper rear cover [2].



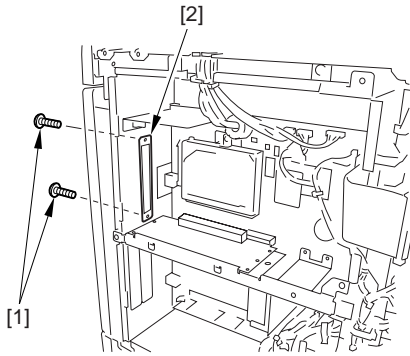
F-3-6

- 3) Remove the 4 screws [1], and detach the controller box cover [2].



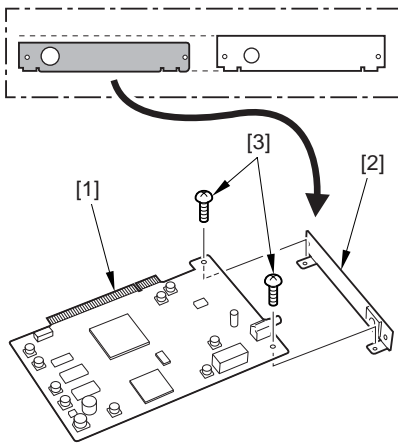
F-3-7

4) Remove the 2 screws [1], and detach the face plate [2].



F-3-8

5) Mount the voice guidance board face plate [2] to the voice guidance board [1] using the 2 included screws (M3X6) [3].



F-3-9

**⚠ Checking the Position of the Slide Switch (SW1) on the Voice Guidance Board-A1**

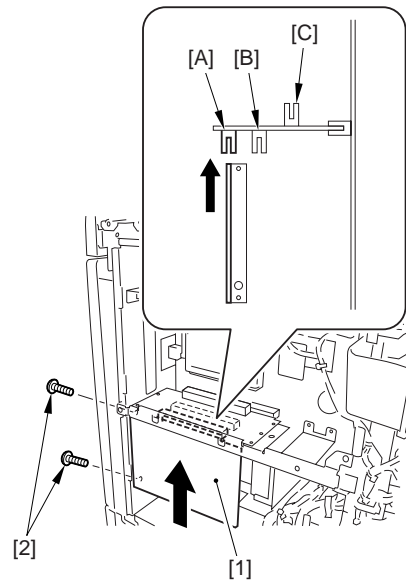
The slide switch (SW1) on the Voice Guidance Board-A1 is provided as a means of switching frequencies (33 MHz/66 MHz) to suit the transfer speed of the PCI bus. It is important for the switch setting to suit the transfer speed so that the voice will be free of interruption. If you inadvertently moved the slide, be sure to put it back to its correct position.

For the Board, the frequency must be set to 33 MHz.

6) Mount the voice guidance board [1] to the Expansion Bus-C1, and secure it in place using 2 screws [2].

**⚠** A voice board [1] must be mounted to a specified position. Be sure to mount it to the slot [A] on the Expansion Bus C-1 board. Do not mount it to the slot [B] or [C].

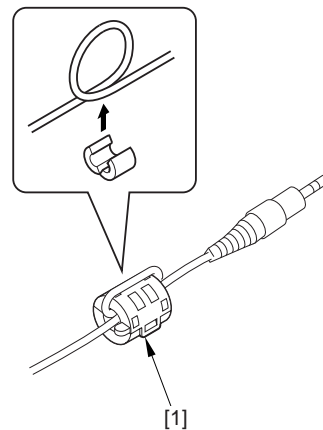
**⚠** If other board is mounted to the slot [A], pull the board out of the slot and mount it to other slot. Then, mount a voice board to the slot [A].



F-3-10

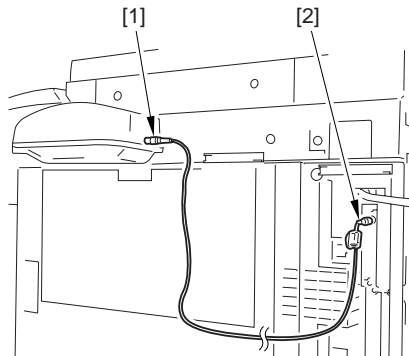
**⚠** Be sure that the PCB is perpendicular to the connector.

7) Fit the ferrite core [1] to the cable.



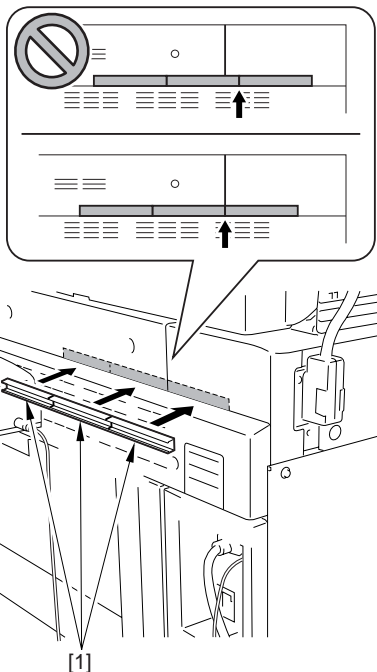
F-3-11

8) Connect the cable to the speaker [1] and the voice guidance board [2].



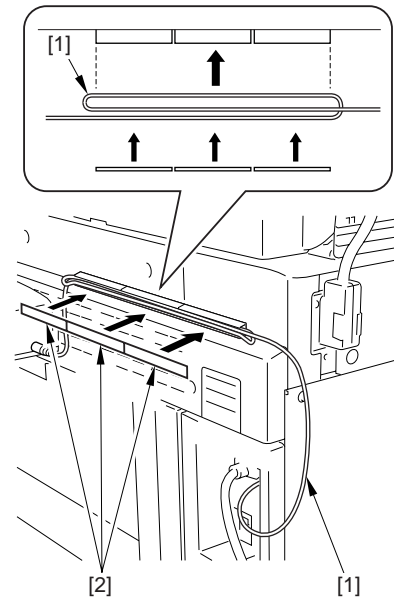
F-3-12

9) Mount the 3 cord guides [1] to the reader unit as shown.



F-3-13

10) Fix the cable [1] in place using the color guide so that it is free of unnecessary slack; then, attach the cord guide cover [2].



F-3-14



Be sure that the excess around the bend of the cable is 1 cm of the cable guide.



Take care to avoid biting of the wire when opening and closing the manual feed tray or the right door.

- 11) Mount the main controller box cover using 4 screws.
- 12) Mount the upper rear cover using 6 screws.
- 13) Route the reader unit communications cable through the cable clamp, and close the clamp.
- 14) Connect the reader unit communications cable.
- 15) Connect the power cable (for the power outlet) of the host machine.

#### 4. Making Settings After Installation

To make use of the Voice Guidance Kit-A2 after turning on the host machine, you need to make the following settings in user mode:  
Additional Function> system setting> Voice Guide management> Use Voice Guide

- 1) Select [OK].
- 2) Press [OK].

default : OFF

- To check that the voice board is recognized by the machine, make the following selections in service mode

service mode  
COPIER> DISPLAY> ACC-STS> PC11

If 'voice board' is indicated for PC11, the board is correctly recognized by the machine.

#### 5. Checking the Operation

- To Enable

- 1) Hold down the Reset key 3 sec or more.

2) See that the copy count on the screen is enclosed in red, indicating 'Voice Guidance' is ready for use.

- To Disable

- 1) Hold down the Reset key for 3 sec or more.

### 3.3.2 Installation Procedure (iR C3170/2570)

0009-9972

#### 1. Turning Off the Host Machine

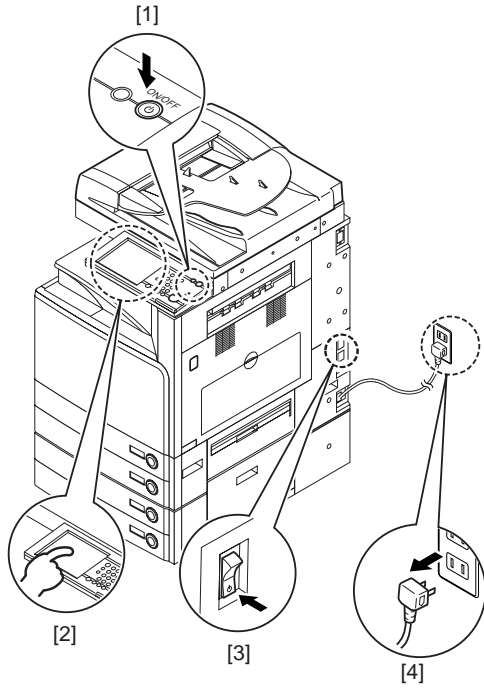


Turning Off the Main Power

When turning off the main power, be sure to go through the following in strict sequence to protect the machine's hard disk:

- [1] Hold down on the power switch on the control panel for 3 sec or more.

- [2] Operate on the touch panel according to the shut-down sequence indicated so that the main power switch may be turned off.
- [3] Turn off the main power switch.
- [4] Disconnect the power cable (for the power outlet).



F-3-15

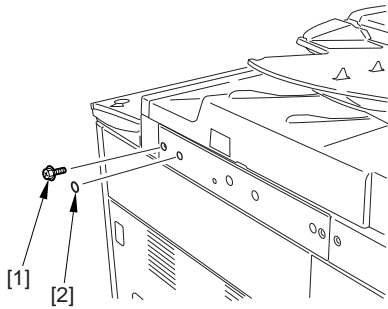
**Installation Procedure**

**2. Mounting the Speaker Unit**

- 1) Remove the screw [1] for the upper right cover, and detach the face cover [2].

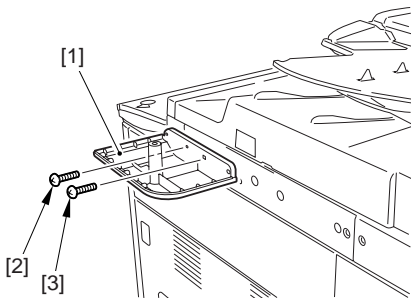
**MEMO:**

The screw removed will not be reused.



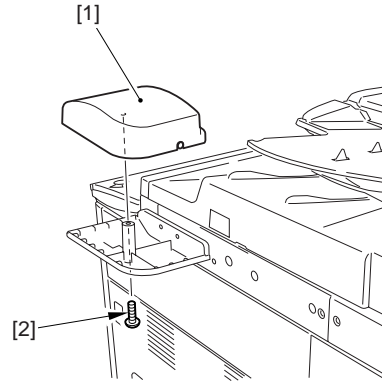
F-3-16

- 2) Mount the lower cover [1] of the speaker unit to the upper right cover using the screw (M3X16) [2] and screw (M4X16) [3] included in the package.



F-3-17

- 3) Mount the upper cover [1] of the speaker unit to the lower cover attached in step 2), and fix the upper cover using the included screw (M4x6) [2].



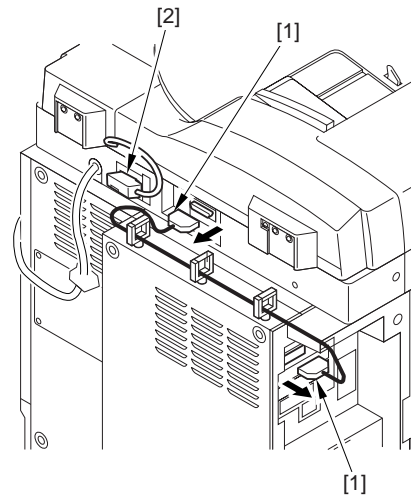
F-3-18

**3. Mounting the Voice Guidance Board**

- 1) Disconnect the 2 connectors [1] of the reader communication cable and the DADF cable [2].

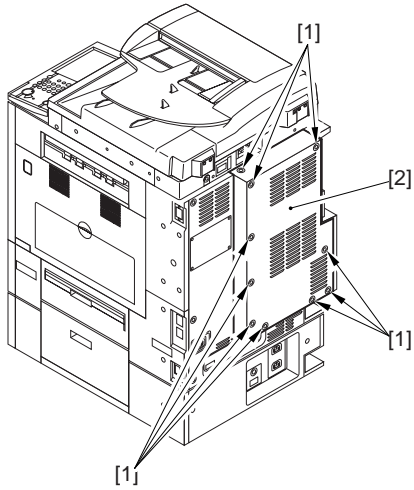
**MEMO:**

For the model without the DADF, disconnect the 2 connectors [1] of the reader communication cable.



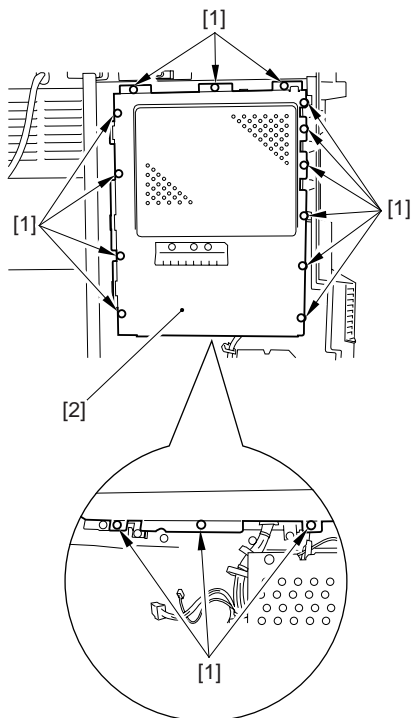
F-3-19

- 2) Remove the 10 screws [1], and detach the rear right cover [2].



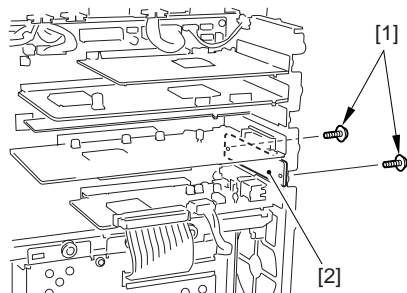
F-3-20

3) Remove the 16 screws [1], and detach the controller box cover [2].



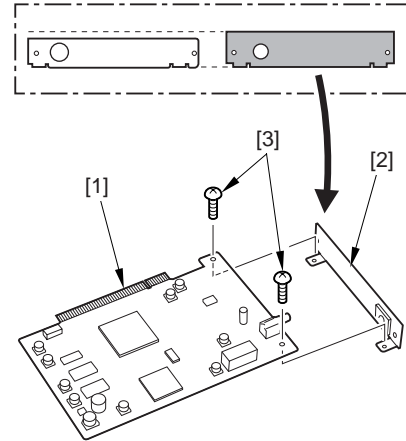
F-3-21

4) Remove the 2 screws [1], and detach the face plate [2].



F-3-22

5) Mount the voice guidance board plate [2] to the voice guidance board [1] using the included 2 screws (M3X6) [3].

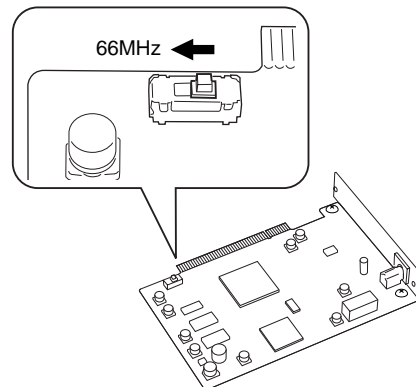


F-3-23



**Checking the slide switch SW1 on the voice guidance board**

The slide switch (SW1) on the Voice Guidance Board-A1 is provided as a means of switching frequencies (33 MHz/66 MHz) to suit the transfer speed of the PCI bus. It is important for the switch setting to suit the transfer speed so that the voice will be free of interruption. For the iR C3170/2570, 66MHz is the correct position of the switch. Because the factory setting is 33MHz, it is necessary to change the position of the switch for the iR C3170/2570.

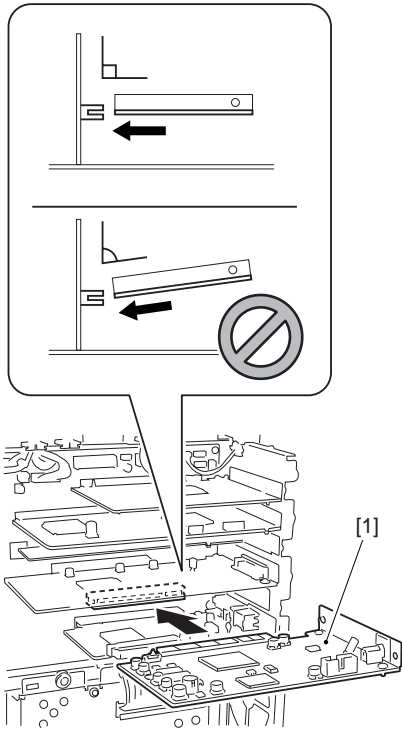


F-3-24

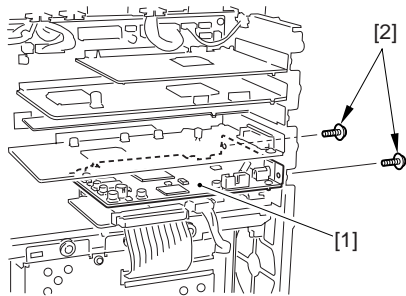
6) Insert the voice guidance board [1], and fix it with the 2 screws [2].



Be sure that the PCB is perpendicular to the connector.

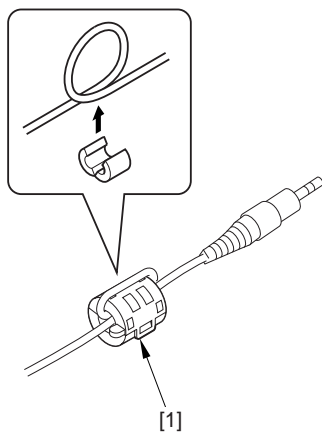


F-3-25



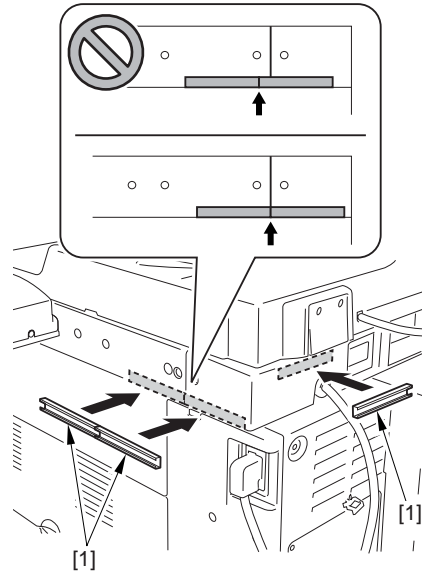
F-3-26

- 7) Mount the controller box cover and the rear right cover.
- 8) Mount the ferrite core [1] to the cable.



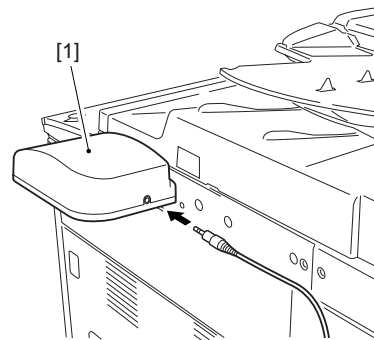
F-3-27

- 9) Mount the 3 cord guides [1] as shown in the fig. below.

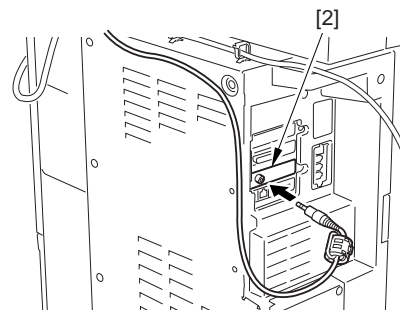


F-3-28

- 10) Connect the cable to the speaker [1] and the voice guidance board [2].



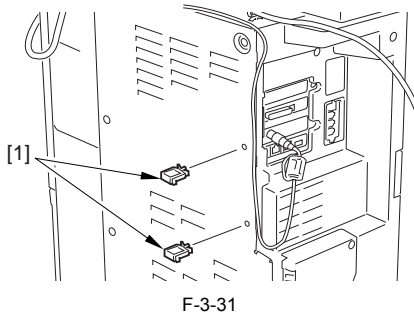
F-3-29



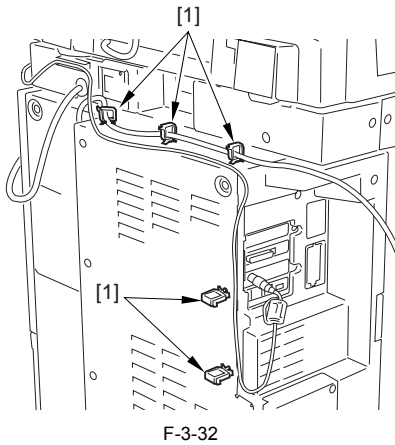
F-3-30

- 11) Mount the 2 clamps to the rear right cover.

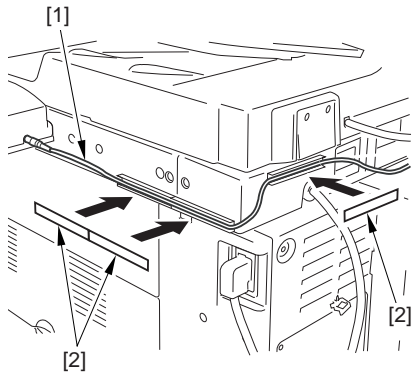




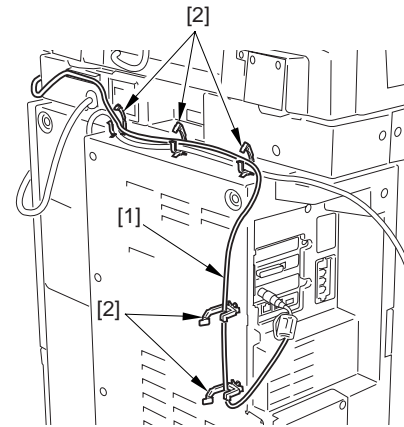
12) Open the 5 clamps [1] at the rear right cover.



13) Fix the cable [1] in place using the color guide so that it is free of unnecessary slack; then, attach the cord guide cover [2].



14) Close the 5 clamps [2]; making sure the cable [1] is free of excess slack.



15) Connect the reader communication cable, and connect the DADF cable.

16) Turn ON the main power switch.

17) Connect the power cable of the iR machine to a receptacle.

#### 4. Making Settings After Installation

To make use of the Voice Guidance Kit-A2 after turning on the host machine, you need to make the following settings in user mode:  
Additional Function> system setting> Voice Guide management> Use Voice Guide

1) Select [OK].

2) Press [OK].

default : OFF

- To check that the voice board is recognized by the machine, make the following selections in service mode

service mode

COPIER> DISPLAY> ACC-STS> PCII

If 'voice board' is indicated for PCII, the board is correctly recognized by the machine.

#### 5. Checking the Operation

- To Enable

1) Hold down the Reset key 3 sec or more.

2) See that the copy count on the screen is enclosed in red, indicating 'Voice Guidance' is ready for use.

- To Disable

1) Hold down the Reset key for 3 sec or more.



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## Chapter 4 Maintenance

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## 4.1 Troubleshooting

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### 4.1.1 The voice guide fails even when the Reset key is held down

0010-4666

**The voice guide fails even when the Reset key is held down.**

Step 1. Is the Focus indicated when the Reset key is held down?

\$ Yes ->

Is the speaker connected correctly?

Is the speaker (not the headset) selected in user mode? (Voice Guide Settings>Speaker/Headphone Switch)

Is the speaker sound volume and speed correctly? (Voice Guide Settings>Voice guide reading volume/speed)

\$ No ->

Go to step 2.

Step 2. Is 'set voice' enabled (ON) in user mode? (System Settings>Voice Guide Management Settings)

\$ Yes ->

Is TTS-XX correctly installed?

See Service mode

COPIER>DISPLAY>VERSION>TTS-JA/TTS-EN

If no exhibit version number, install TTS-XX to iR C by SST.

If exhibit version number, replace the audio board, or suspect other cause.

\$ No ->

Enable it (ON).

\$ There is no menu. ->

Is the board connected correctly and is the memory at least 768 MB?

To see if the board is connected correctly,

In service mode, make the following selections: COPIER>DISPLAY>ACC-ST5>PC11





Jul 19 2005

**Canon**