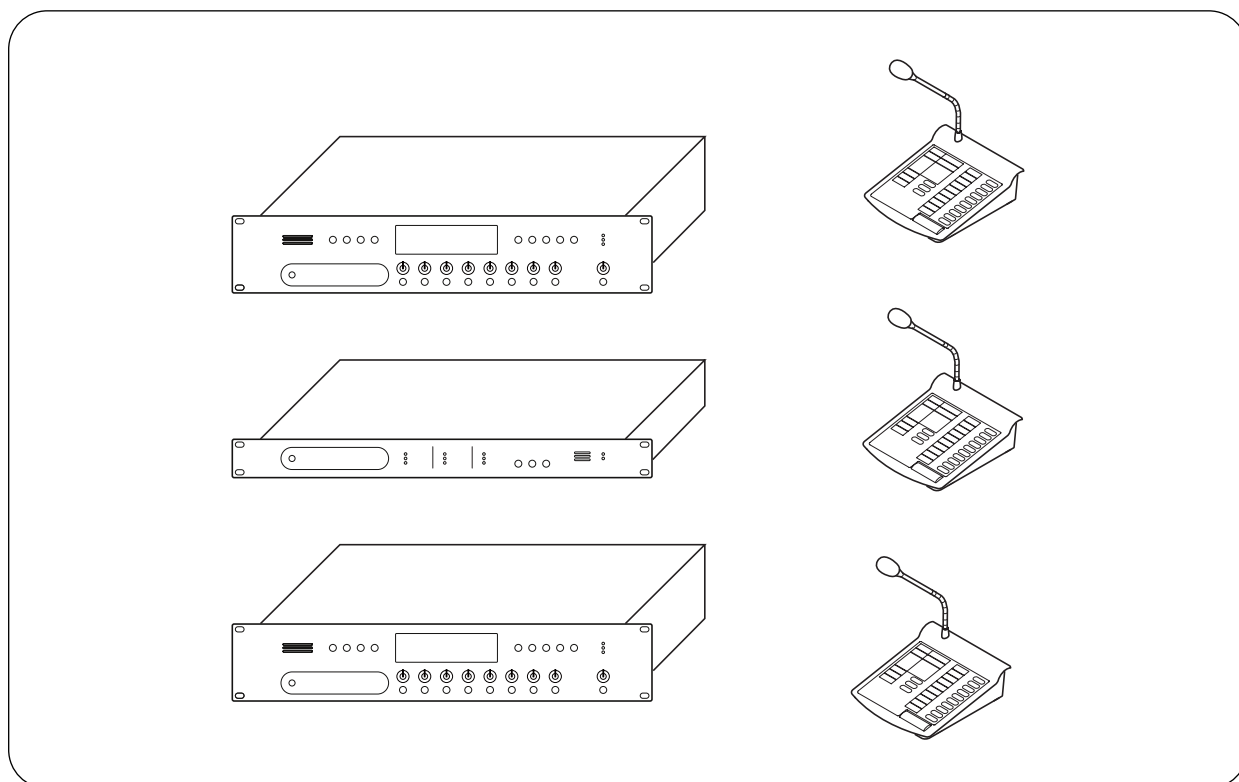# TOA

MATRIX SYSTEM   SX-2000 SERIES

Thank you for purchasing TOA's Matrix System.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

TOA Corporation

TABLE OF CONTENTS

3

Chapter 1

SX-2000SM SYSTEM MANAGER

The SX-2000SM System Manager is capable of performing audio signal routing and priority control for the entire SX-2000 system. It comes with 8 control inputs, 8 control outputs, failure status output, failure status input, and other functions that include keys, access indicators, mode indicators and failure indicators, enabling a wide range of control and status monitoring.

Each function can be set using the SX-2000 Setting Software, and the settings data saved to a Compact Flash (CF) card. By inserting the programmed CF card into the SX-2000SM, each control can be performed for the entire system. It is also possible to record the entire system's operation log and store its contents on the CF card as an operation log.

The SX-2000SM is a 1U-size* unit that can be mounted in an EIA equipment rack. It has two power supply inputs, one of which can be connected to a backup power source to protect against power failures.

*1U size = 44.5 mm (standard size)

1. NOMENCLATURE AND FUNCTIONS

[Front]

Protective cover

Inside of the protective cover
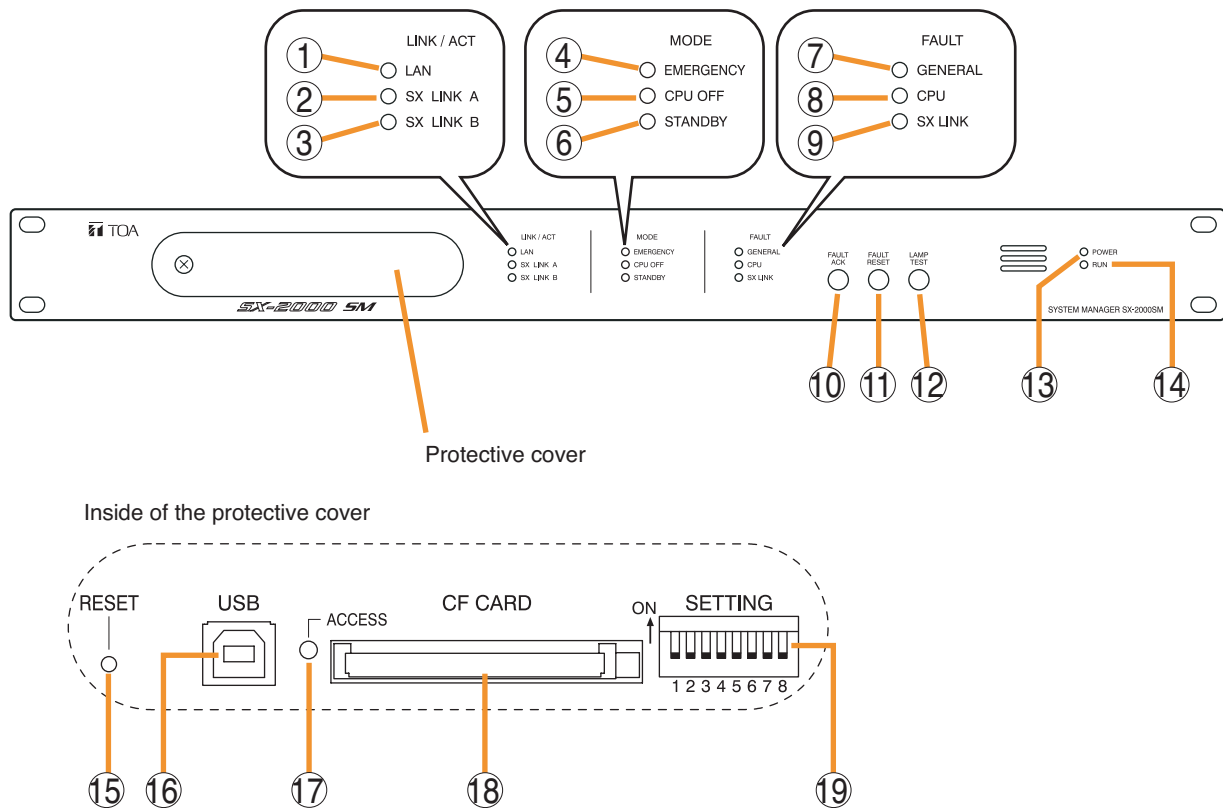
1. LAN Indicator [LAN] (Green)
Lights when the LAN connector on the rear panel is connected, and flashes during LAN communications.

2. SX Link A Indicator [SX LINK A] (Green)
Lights when the SX Link A connector on the rear panel is connected, and flashes while communications are being performed via the SX Link Connector A.

3. SX Link B Indicator [SX LINK B] (Green)
Lights when the SX Link B connector on the rear panel is connected, and flashes while communications are being performed via the SX Link Connector B.

4. Emergency Indicator [EMERGENCY] (Red)
Lights when the CPU turns off (p. 5-7), and flashes when a 24 V emergency cutoff* state occurs involving any SX-2000AO within the system.

* In the SX-2000 system, a 24 V emergency cutoff input terminal that allows control of an emergency audio input is provided on the SX-2000AO's rear panel. When the SX-2000 system is combined with an emergency broadcast system, a 24 V DC is normally kept being supplied to this emergency cutoff input terminal

and is cut off (24 V emergency cutoff function) in emergency situations. This interrupts the general-purpose broadcast from the SX-2000, allowing the emergency broadcast system to override it. (For details, see the separate Installation Manual.)

5. CPU OFF Indicator [CPU OFF] (Red)
Lights when the CPU turns off (p. 5-7).

6. Standby Indicator [STANDBY]
This indicator is not used.

7. General Indicator [GENERAL] (Yellow)
Lights when the CPU turns off (p. 5-7) or when a failure is detected in the SX-2000SM. Flashes when a failure is detected in the system.

8. CPU Indicator [CPU] (Yellow)
Lights when the CPU turns off (p. 5-7) or when a failure is detected in the SX-2000SM.

9. SX Link Indicator [SX LINK] (Yellow)
Flashes when cables are not connected to the rear panel-mounted SX Link Connectors A and B.

10. Fault Ack Key [FAULT ACK]
Stops the buzzer from sounding when failures are detected in the SX-2000SM.

11. Fault Reset Key [FAULT RESET]
Pressing this key resets the SX-200SM's failure information (the buzzer and fault indicators).

12. Lamp Test Key [LAMP TEST]
Used to test each indicator on the front panel of the SX-2000SM.
All Mode and Fault indicators (4) – (9) remain lit as long as this key is pressed.

13. Power Indicator [POWER] (Blue)
Lights when the power is switched on.

14. RUN Indicator [RUN] (Green)
Continuously flashes.
Extinguishes when the CPU turns off ().

15. Reset Key [RESET]
Pressing this key reactivates the SX-2000SM. The entire system, including the SX-2000AI and the SX-2000AO, is reactivated.
Notes
・ Reactivating the system stops broadcasts currently in progress.
・ Do not keep pressing the key for over 1 second. The unit cannot operate.
If the unit operation is suspended, press the Reset key for less than one second again.

16. USB Port [USB]
This port is not used.

17. CF Card Access Indicator [ACCESS] (Green)
Flashes while reading from or writing to a CF card.
Note
Do not remove and reinsert the CF card nor operate the DIP switch (19) while this indicator is flashing.

18. CF Card Slot [CF CARD]
Use this slot to insert a CF card to operate settings data or write log data to the card.

・ For settings data operation, see .
・ For the method of writing log data, see .

Note
Removing and reinserting the CF card requires DIP switch settings. If the CF card is removed and reinserted without performing correct DIP switch settings, this may cause settings data loss or damage the card

19. DIP Switch [SETTING]

Used to perform CF card access settings, read log data, and operate settings data ().

・ **Switch 1**
ON: Allows log data to be written into a CF card.
OFF: Select this position normally.

・ **Switch 2**
ON: Access to the CF card stops.
OFF: Select this position normally.

・ **Switches 3 – 8**
These switches are not used.

Note
Switches 1 – 8 are set to the OFF position by default. Set all these switches to OFF when using the system under normal use conditions.

2. OPERATING SETTINGS DATA (DIP Switch 2 Operation)

2.1. Using Settings Data

The SX-2000 system is operated by storing the data set using the SX-2000 Setting Software on a CF card and inserting the card into the SX-2000SM.

Note
Be sure to insert the CF card containing the settings data into the CF card slot.

2.2. Inserting a CF Card

The DIP switch must be set when inserting the CF card into the SX-2000SM.
Follow the procedure below:

Note
Do not operate the DIP switch while the CF card access indicator inside the protective cover is flashing.

Step 1. Remove the protective cover on the SX-2000SM's front panel by unscrewing it with a Phillips screwdriver.
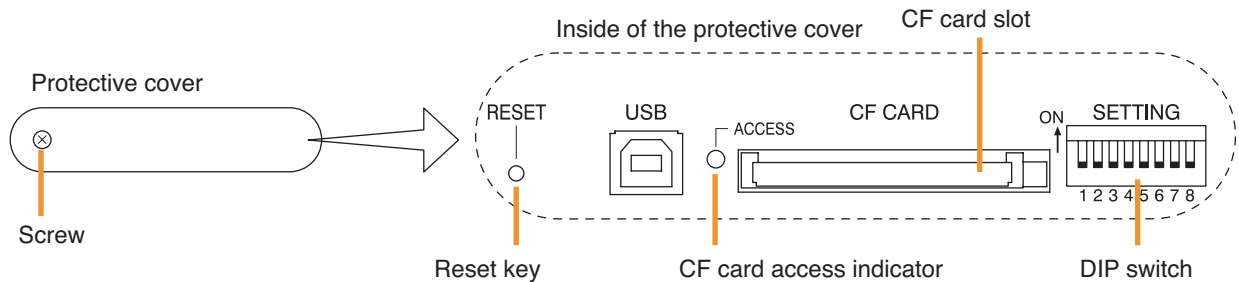
Step 2. Confirm that the CF card access indicator is unlit and the DIP switch 2 is set to OFF.
This condition allows the CF card to be inserted.
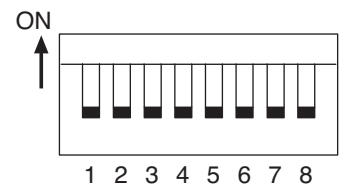
Step 3. Insert the CF card on which the settings data has been stored into the CF card slot.

Note: DIP switch 2 is set to OFF by default.

Step 4. Press the Reset key.
The SX-2000 system is reactivated.

> **Note**
> Reactivating the system stops broadcasts currently in progress.

Step 5. Replace the protective cover.

3. OUTPUTTING LOG DATA (Operating DIP Switches 1 and 2)

By writing the SX-2000 system's operation log to a CF card in the ".s2l" file format and displaying this data on a PC installed with the SX-2000 Setting Software, the data can be output as an Excel CSV file. Log data saved to a CF card is automatically assigned the file name "SX2000_x.s2l," in which the "x" represents a number from 0 to 9 indicating the order in which the logs have been saved. If more than ten files are saved, the oldest files (those with lower numbers) are overwritten. The newness or oldness of a file may be ascertained by checking its date. Shown below is the procedure for writing the SX-2000SM's log data to the CF card.

Notes
· When storing log data on a CF card, confirm in advance that it has at least 15 megabytes of free space.
· Do not operate the DIP switch while the CF card access indicator inside the protective cover is flashing.
· Reactivating the SX-2000SM erases the log data temporarily stored in SX-2000SM memory.
  So, when storing log data on a CF card, be sure to perform that before activating the SX-2000SM.

Step 1. Remove the protective cover on the SX-2000SM's front panel unscrewing it with a Phillips screwdriver.
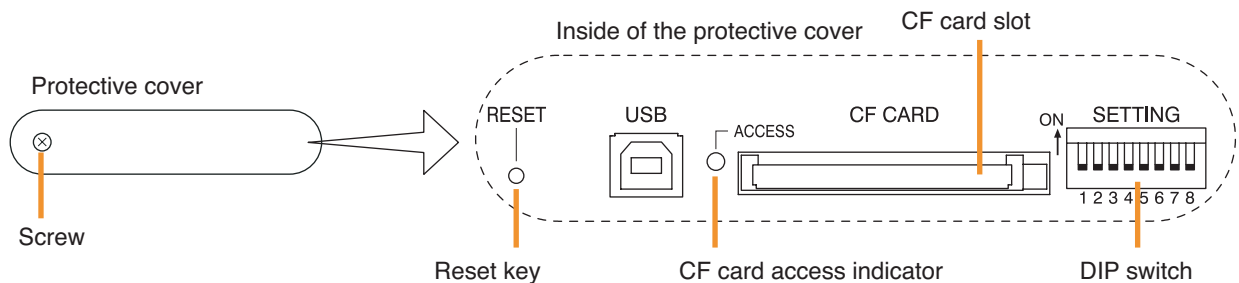
Step 2. Set Switch 1 to ON.
Log data is saved to the CF card at this time.
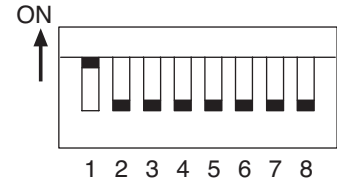
Note: Switch 1 is set to OFF by default.

**Step 3.** Confirm that the CF card access indicator has extinguished, then set Switch 1 to the OFF position.
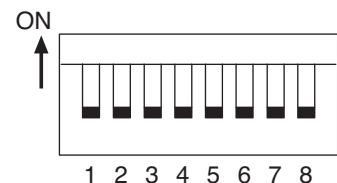
Step 4. Set Switch 2 to ON.
Access to the CF card stops, allowing the card to be removed.
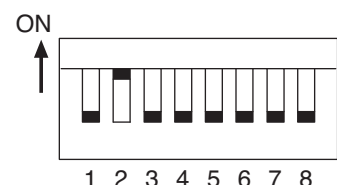
Step 5. Remove the CF card from the card slot.

Step 6. Insert the CF card into the PC's card slot and start the SX-2000 Setting Software.
Confirm the log data using the SX-2000 Setting Software.
For details, see the separate Setting Software Instructions, "Utility."

Step 7. Set Switch 2 to OFF.
The CF card can be inserted.

ON

1 2 3 4 5 6 7 8
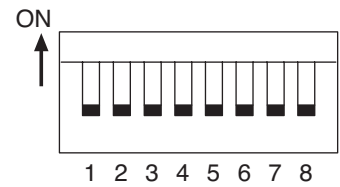
Step 8. Insert the CF card with the saved settings data into the SX-2000SM's CF card slot.

Step 9. Press the Reset key.
The SX-2000 system is reactivated.

Note
Reactivating the system stops broadcasts currently in progress.

**Step 10.** Replace the protective cover.

Chapter 2

SX-2000AI AUDIO INPUT UNIT

The SX-2000AI is an audio input unit for use with the SX-2000 system. It features modular construction that allows it to handle from 2 to 8 inputs per unit. It can be mounted in an EIA equipment rack (2U size*), and multiple units can be installed in different locations with no need to centralize in one location.

Audio signals are transmitted digitally to the audio output unit, but an analog audio output function (1 channel) enables simultaneous all-zone calls for use in emergency situations.

The SX-2000AI is equipped with 2 power inputs, allowing the connection of a backup power supply for use during power failures. Level meters provided for each input channel allow monitoring of audio input levels. Input volumes can be adjusted using the input volume controls on the front panel, however the maximum volume when the volume control knob is rotated fully clockwise is a default value defined by the SX-2000 Setting Software.

Also, any input channel can be monitored using the internal speaker. The key lock function, designed to prevent accidental mistaken operation, can disable input volume control and monitor volume control settings.

* 1U size = 44.5 mm (standard size)

1. NOMENCLATURE AND FUNCTIONS

[Front]
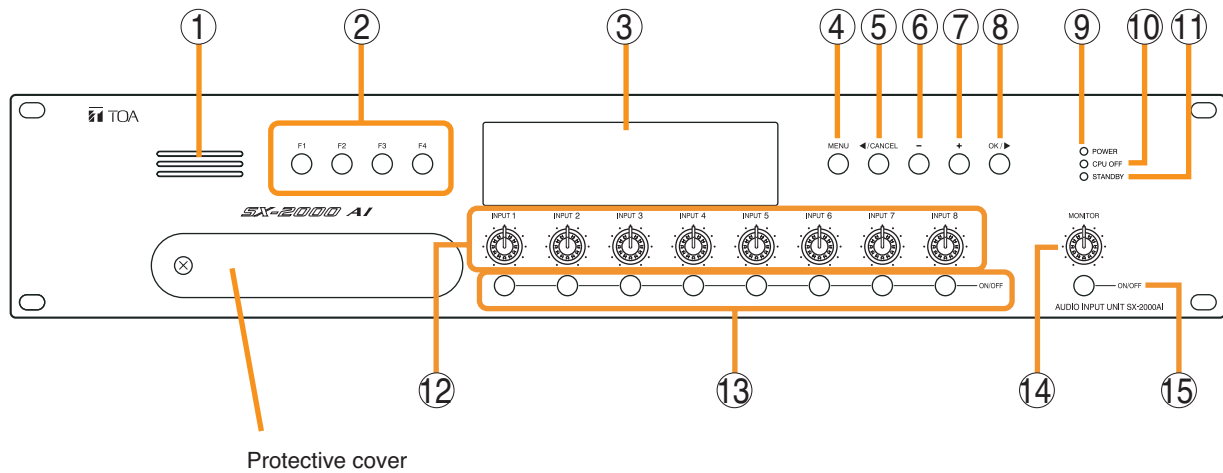
Protective cover

Inside of the protective cover
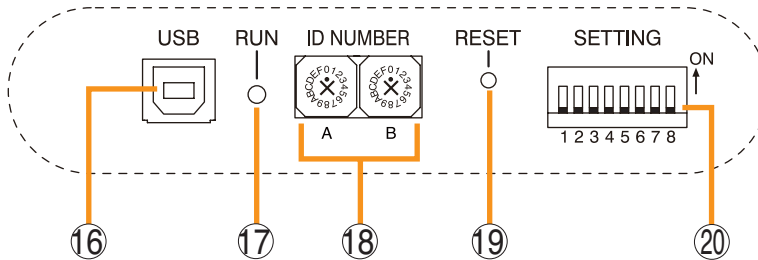
1. Monitor Speaker
Allows any input channel to be monitored.

2. Function Keys [F1, F2, F3, F4]
Pressing a function key executes the function that has been assigned to that key via the SX-2000 Setting Software.
Function keys can be assigned to change or cancel BGM patterns. Use the SX-2000 Setting Software to assign these functions. (See the separate Setting Software Instructions, "Control Input Settings.")

3. Fluorescent Display
The default display shows device numbers and firmware versions.

Device No.   Firmware version

A I – 1   V E R. 1.0 0
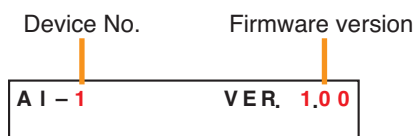
Displays the SX-2000AI's current operation status, input level, etc. (See p. 2-4.)

4. Menu Key [MENU]
Pressing this key displays the fluorescent display's menu screen. Whenever this key is pressed, the screen returns to the default display for whatever portion of the menu screen is displayed.

5. Cancel Key [◀ /CANCEL]
Used to switch the menu screen.

6. Minus Key [−]
Used to switch the menu screen. When the Monitor ON/OFF Key (15) is set to ON, use this key to select which channel to monitor. The selected channel number decreases by one each time this key is pressed.

7. Plus Key [+]
Used to switch the menu screen. When the Monitor ON/OFF Key (15) is set to ON, use this key to select which channel to monitor. The selected channel number increases by one each time this key is pressed.

8. OK Key [OK/ ▶]
Used to switch the menu screen.

9. Power Indicator [POWER] (Blue)
Lights when the power is switched on.

2-2

10. CPU OFF Indicator [CPU OFF] (Red)
Lights when the CPU turns off (p. 5-7).

11. Standby Indicator [STANDBY] (Green)
Flashes when the fluorescent display is in light shutoff mode and the light stays unlit.

12. Input Volume Controls [INPUT 1 – 8]
Adjust the input volume of each input channel. Rotating the control fully counterclockwise mutes the input sound source connected to that channel and causes the input ON/OFF indicator (28) on the fluorescent display to turn off.

13. Input ON/OFF Key [ON/OFF]
Turns each input channel on or off. The input channel alternates between on and off each time this key is pressed.

14. Monitor Volume Control [MONITOR]
Adjusts the sound volume of the monitor speaker (1).

15. Monitor ON/OFF Key [ON/OFF]
Enables or disables the audio monitor function for the selected input channel. The monitor function alternates between on and off each time this key is pressed.

16. USB Port [USB]
This port is not used.

17. RUN Indicator [RUN] (Green)
Normally flashes continuously.

18. ID Switch [ID NUMBER]
Sets the SX-2000AI's device number.
(See the separate Installation Manual.)

19. Reset Key [RESET]
Pressing this key resets the SX-2000AI.

Notes
• Resetting the SX-2000AI stops broadcasts in a part of or all zones currently in progress via the reset SX-2000AI.
• Do not keep pressing the key for over 1 second. The unit cannot operate.
If the unit operation is suspended, press the Reset key for less than one second again.

20. DIP Switch [SETTING]
Performs key lock function settings. (See p. 2-5.)

• Switch 1
ON: Disables operation of the front panel input volume controls, input ON/OFF key, monitor volume control, and monitor ON/OFF key.
OFF: Cancels key lock status.

• Switches 2 – 8
These switches are not used.

Note
Switches 1 – 8 are set to the OFF position by default.

2-3

[Fluorescent Display]
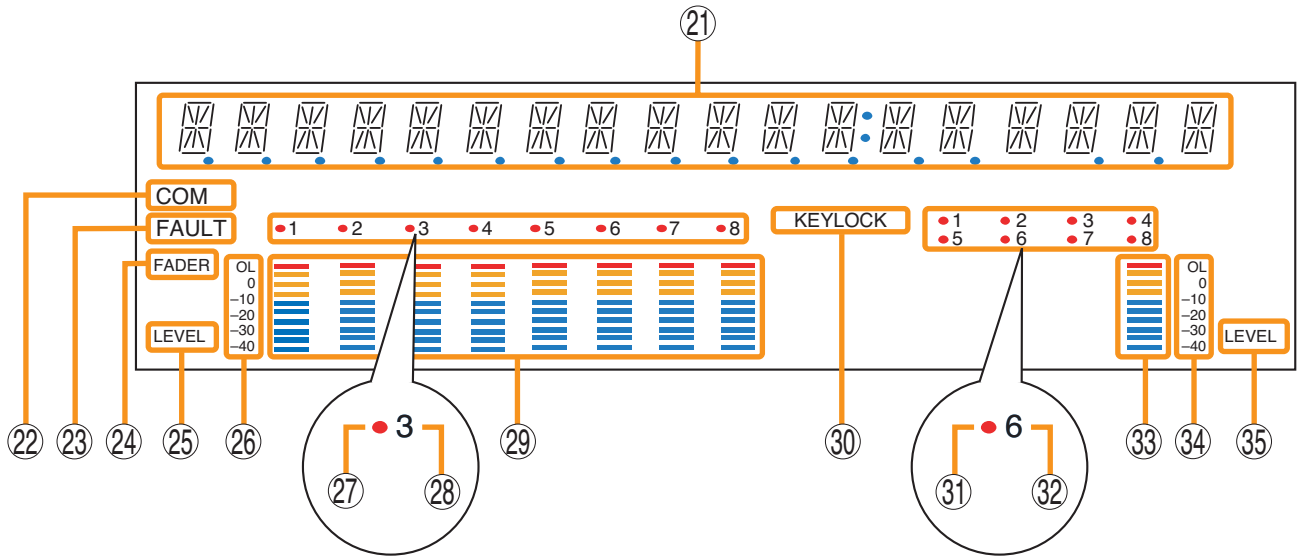
21. Text Display Area
Displays the menu screen information when the corresponding function key is pressed.

22. COM Indicator [COM]
Flashes to indicate a communications error.

23. Fault Indicator [FAULT]
Flashes when a system failure, incorrect system configuration* or communications error is detected. This indicator continues to flash until failure conditions return to normal.

* When the system or module configuration differs from the contents set by the SX-2000 Setting Software.

24. Input Level Meter Fader Indicator [FADER]
Lights when the input level meter indicates the sound volume set using the SX-2000 Setting Software or input volume control.

25. Input Level Meter Level Indicator [LEVEL]
Lights when the input level meter indicates the level being input to the SX-2000AI.

26. Input Level Meter Scale

27. Input Indicator
The input channel being monitored lights red.

28. Input ON/OFF Indicator
Lights when the corresponding input channel turns on, but remains unlit while the input volume is being muted.

29. Input Level Meter
Indicates the actual level or a set volume value on each input channel.

30. Key Lock Indicator [KEY LOCK]
Lights when the input volume control, input ON/OFF key, monitor volume control or monitor ON/OFF key is locked. (See p.2-5; Key Lock Settings and Cancellation.)

31. Remote Microphone Output Status Indicator
Lights red continuously as long as announcements are made from the RM-200S/RM-210 Remote Microphone.

32. Remote Microphone Connection Status Indicator
The device number of the Remote Microphone connected to the SX-2000AI lights.

33. Monitor Level Meter
Indicates the sound volume level of the input channel being monitored.

34. Monitor Level Meter Scale
Lights when the monitor ON/OFF key (15) is set to ON.

35. Monitor ON/OFF indicator [LEVEL]
Lights when the monitor ON/OFF key (15) is set to ON.

Note
A timer-activated light shutoff function can be set for the fluorescent display via the SX-2000 Setting Software. (See "Configuration Settings" in the software instruction manual.) When the light shutoff function has been set, if the SX-2000AI is not operated for 5 minutes or more, the fluorescent display's light extinguishes and the standby indicator (11) begins to flash.

2. KEY LOCK SETTINGS AND CANCELLATION (DIP Switch 1 Operation)

It is possible to disable the input volume controls, input ON/OFF keys, monitor volume control, and monitor ON/OFF key in order to prevent mistaken operation.
The input volume level set while the key lock function is used takes effect after the key lock has been released. When the key lock function is enabled if the monitor ON/OFF key is set to ON, the monitor function turns off.

Keys that can be locked
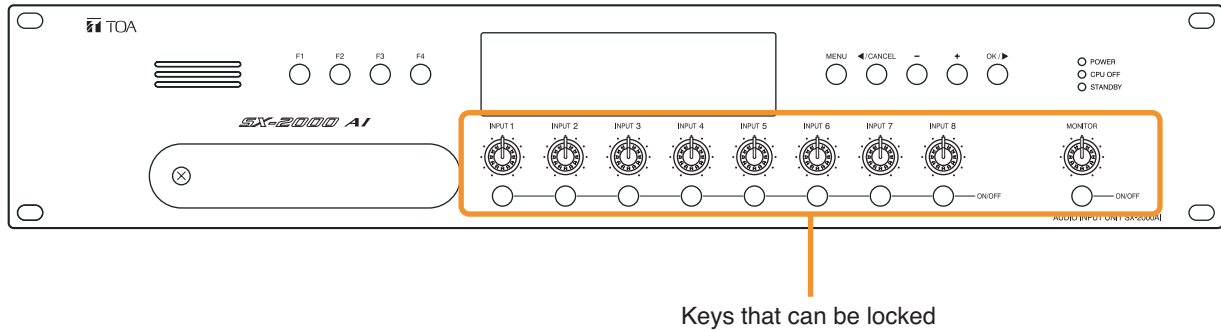
Step 1. Remove the protective cover on the SX-2000AI's front panel unscrewing it with a Phillips screwdriver.
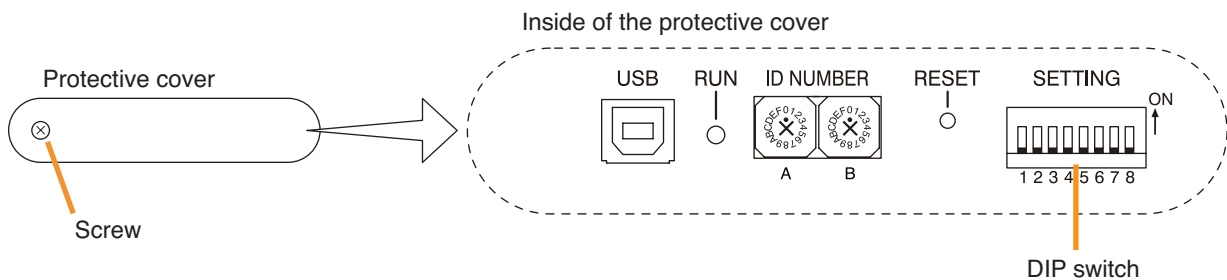
Inside of the protective cover

Protective cover

Screw

DIP switch

Note: Switch 1 is set to OFF by default.

Step 2. Set the switches.

2-1. If setting a key lock function:
Set Switch 1 to ON. When keys have been locked, the KEY LOCK indicator in the fluorescent display lights.

2-2. If canceling a key lock function:
Set Switch 1 to OFF. When key locking has been cancelled, the KEY LOCK indicator in the fluorescent display extinguishes.

Step 3. Replace the protective cover.

2-5

3. OPERATING THE MENU SCREEN

Setting values can be confirmed or changed from the SX-2000AI's front panel.

3.1. Menu Screen Operation Keys

Fluorescent display

S L O T   1.A   2.D   3.C   4.

Red characters indicate changeable display items. One example of these is shown in the following hierarchical chart.

This mark is displayed when a display has sub-menus available.

Menu screen operation keys

MENU   ◀/CANCEL   −   +   OK/▶

OK Key
Moves the display one level down in the hierarchy.

Plus Key
Moves to the next item in the same hierarchy level.

Minus Key
Moves to the previous item in the same hierarchy level.

Cancel Key
Moves the display one level up in the hierarchy.

Menu Key
Pressing this key when default indications are displayed displays the fluorescent display's menu screen. Whenever this key is pressed, the screen returns to the default display for whatever portion of the menu screen is displayed.

2-6

3.2. Menu Screen Hierarchical Chart

Default Display

A I − 1   V E R. 1.0 0

MENU

MENU

Note
Pressing the Menu key when any menu screen is displayed returns the screen to the default display.

Information Display (p. 2-8-AI1)

OK/▶

Error Display (p. 2-8-AI2)

1 − I N F O R M A T I O N

F A U L T L E S S

◀/CANCEL

−   +

Operation Status Display (p. 2-9-AI3)

OK/▶

BGM Pattern Display (p. 2-9-AI4)

2 − O P E R A T I O N   S T A T U S

B G M   P A T T E R N   No.1

◀/CANCEL

−   +

Volume Setting Display (p. 2-9-AI5)

OK/▶

Volume Setting Detail Display (p. 2-9-AI6)

C O N F I G   V O L U M E   ≻

V O L U M E   C h 1   : − 2 0 d B

◀/CANCEL

◀/CANCEL

−   +

Front Panel Volume Display (p. 2-10-AI7)

OK/▶

Front Panel Volume Detail Display (p. 2-10-AI8)

P A N E L   V O L U M E   ≻

V O L U M E   C h 1   : − 1 0 d B

◀/CANCEL

◀/CANCEL

−   +

Bus Selection Menu Display (p. 2-11-AI9)

OK/▶

Bus Selection Detail Display (p. 2-11-AI10)

B U S   S E L E C T   S T A T U S ≻

I N 1   ≻   B 3   ≻ A O 1 6 − 4 B

◀/CANCEL

◀/CANCEL

Equipment Information Display (p. 2-12-AI11)

OK/▶

MAC Address Menu Display (p. 2-12-AI12)

OK/▶

MAC Address Display (p. 2-12-AI13)

3 − U N I T   S T A T U S

M A C   A D D R E S S   ≻

0 0 − 0 5 − F 9 − F F − 8 5 − 3 E

◀/CANCEL

◀/CANCEL

−   +

Slot Status Display (p. 2-12-AI14)

OK/▶

Slot Status Detail Display (p. 2-12-AI15)

S L O T   1.A   2.D   3.C   4.− ≻

S L O T 1   D − 9 2 1 E / F   (A)

◀/CANCEL

◀/CANCEL

−   +

Equipment Version Display (p. 2-13-AI16)

U N I T   V E R. 1 _ 0 0 _ 0 0 0

◀/CANCEL

−   +

Sub CPU Version Display (p. 2-13-AI17)

S U B   C P U   V E R. 1.0

◀/CANCEL

−   +

Hardware Version Display (p. 2-13-AI18)

H.W.   C.0   F.0   P.0   M.0   A.0

◀/CANCEL

3.3. Explanations of Menu Screen Items

3.3.1. Information Display (AI1)

```
┌─────────────────────────────────┐
│ 1 – I N F O R M A T I O N       │
│                                 │
│                                 │
└─────────────────────────────────┘
```

Display screen for menu item "Information."

[Error Display (AI2)]

When any of the Fault indicators on the SX-2000SM's front panel is flashing, or when the Fault indicator or COM indicator on the SX-2000AI's fluorescent display is flashing, a brief error message appears in the text display area as shown below.

<table>
<tr>
<td>
```
┌─────────────────────────────────┐
│ F A U L T L E S S               │
│                                 │
│                                 │
└─────────────────────────────────┘
```
</td>
<td>
No abnormality or failure is detected.
(Fault and COM indicators: Off)
</td>
</tr>
<tr>
<td>
```
┌─────────────────────────────────┐
│ C O M P O N E N T   E R R O R   │
│                                 │
│                                 │
└─────────────────────────────────┘
```
</td>
<td>
Incorrect system configuration* is detected.
(Fault indicator: Flashing)

* When the system or module configuration differs from the contents set by the SX-2000 Setting Software.
</td>
</tr>
<tr>
<td>
```
┌─────────────────────────────────┐
│ F A U L T   D E T E C T E D     │
│                                 │
│                                 │
└─────────────────────────────────┘
```
</td>
<td>
System failure is detected. (e.g. The RM-200S's microphone has failed.)
(Fault indicator: Flashing)
</td>
</tr>
<tr>
<td>
```
┌─────────────────────────────────┐
│ S X   L I N K   C O M   F A U L T │
│                                 │
│                                 │
└─────────────────────────────────┘
```
</td>
<td>
Communications error* is detected.
(Fault and COM indicators: Flashing)

* The SX-2000AI cannot communicate with the SX-2000SM.
</td>
</tr>
</table>

Note
Contents of failure or abnormality can be confirmed by using the log data stored in the SX-2000SM.
(See .)

3.3.2. Operation Status Display (AI3)
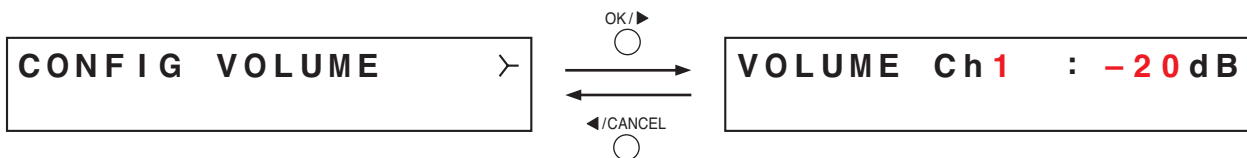
```
2 – O P E R A T I O N   S T A T U S
```

Display screen for menu item "Operation Status."
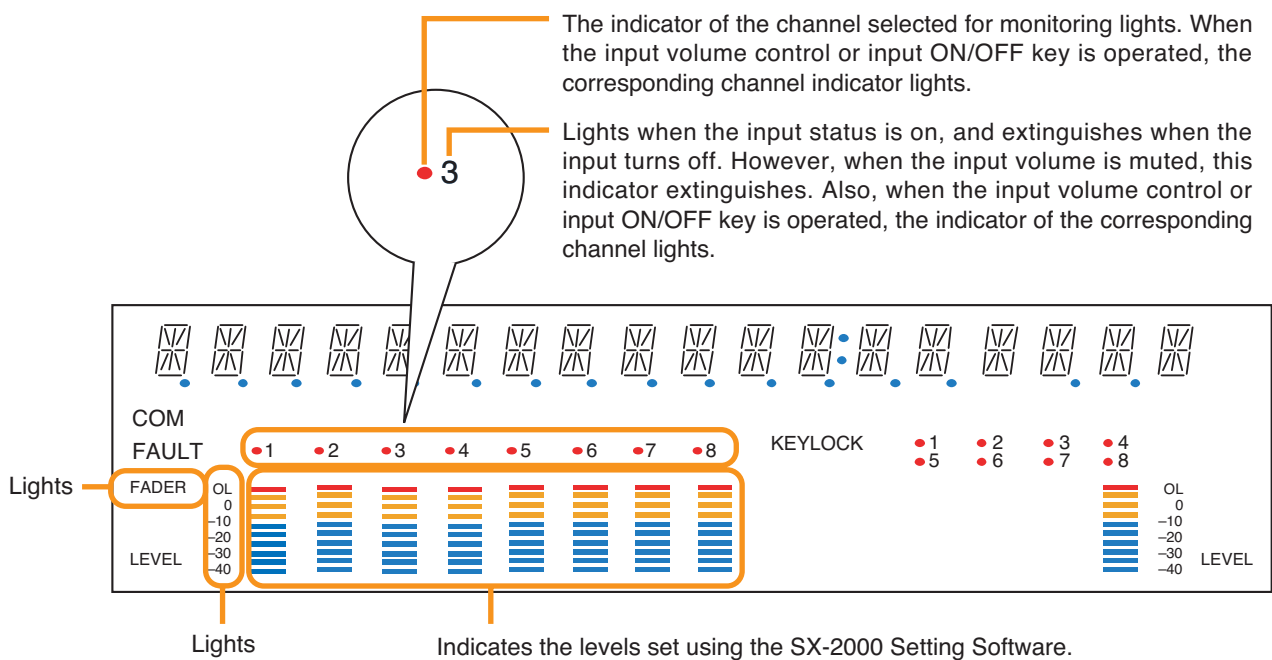
[BGM Pattern Display (AI4)]

```
B G M   P A T T E R N   N o . 1
```

Displays the pattern number for a BGM broadcast in progress.

[Volume Setting Display (AI5), Volume Setting Detail Display (AI6)]

```
C O N F I G   V O L U M E        ⊱
```
OK/▶
◀/CANCEL
```
V O L U M E   C h 1   : – 2 0 d B
```

Indicates the input volume level set using the SX-2000 Setting Software in the input level meter.
Besides, on the Volume Setting Detail Display screen, the set value for each input channel can be confirmed.
Pressing the plus key increases the channel number by one and displays the setting value for that channel.
Pressing the minus key decreases the channel number by one and displays the setting value for that channel.

When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the input volume control or input ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the input status is on, and extinguishes when the input turns off. However, when the input volume is muted, this indicator extinguishes. Also, when the input volume control or input ON/OFF key is operated, the indicator of the corresponding channel lights.

Lights

Lights

Indicates the levels set using the SX-2000 Setting Software.

2-9

[Front Panel Volume Display (AI7), Front Panel Volume Detail Display (AI8)]

OK / ▶

```
PANEL  VOLUME        ⊱
```
⟶
◀ /CANCEL
```
VOLUME  Ch1  : −10dB
```
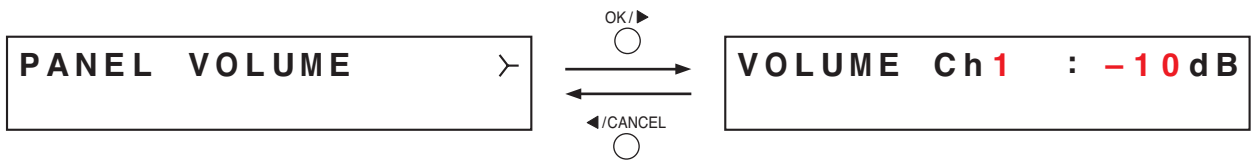
Indicates the input volume level set via the front panel's volume control in the input level meter.
Pressing the plus key increases the channel number by one and displays the setting value for that channel.
Pressing the minus key decreases the channel number by one and displays the setting value for that channel.
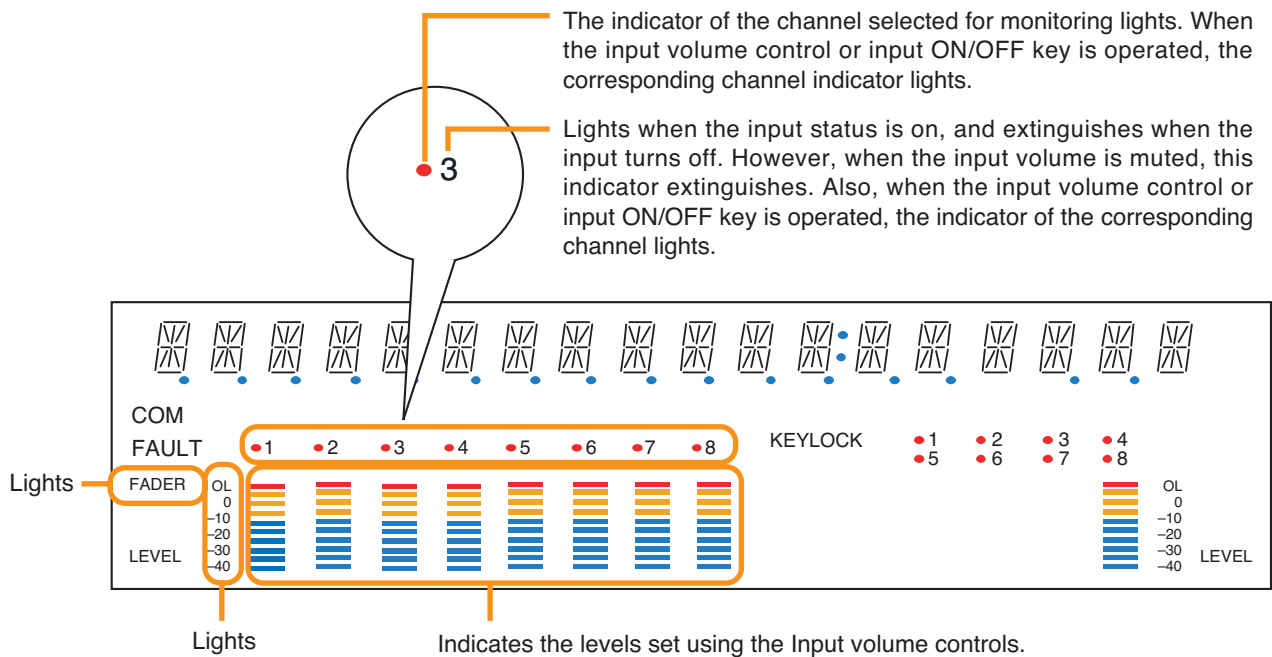
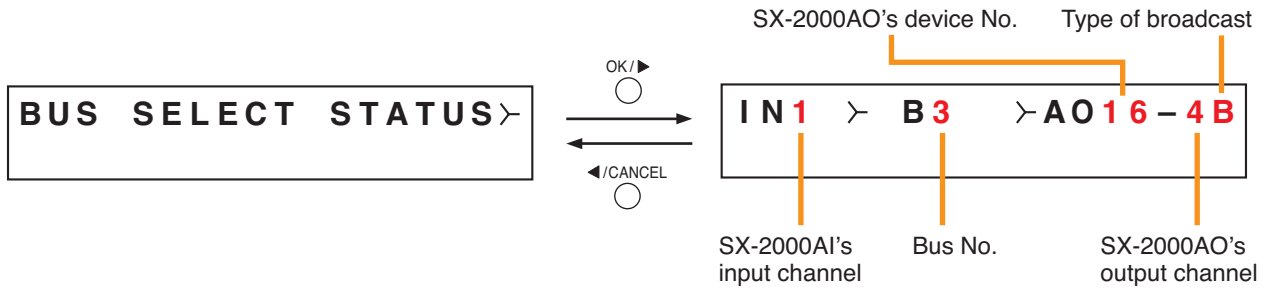When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the input volume control or input ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the input status is on, and extinguishes when the input turns off. However, when the input volume is muted, this indicator extinguishes. Also, when the input volume control or input ON/OFF key is operated, the indicator of the corresponding channel lights.

Lights

Lights

Indicates the levels set using the Input volume controls.

2-10

[Bus Selection Menu Display (AI9), Bus Selection Detail Display (AI10)]

SX-2000AO's device No.　　Type of broadcast

OK/▶

```
┌─────────────────────────┐        ┌─────────────────────────┐
│ BUS SELECT STATUS⊱      │  ──▶   │ IN1  ⊱ B3  ⊱AO16–4B    │
└─────────────────────────┘  ◀──   └─────────────────────────┘
```

◀/CANCEL

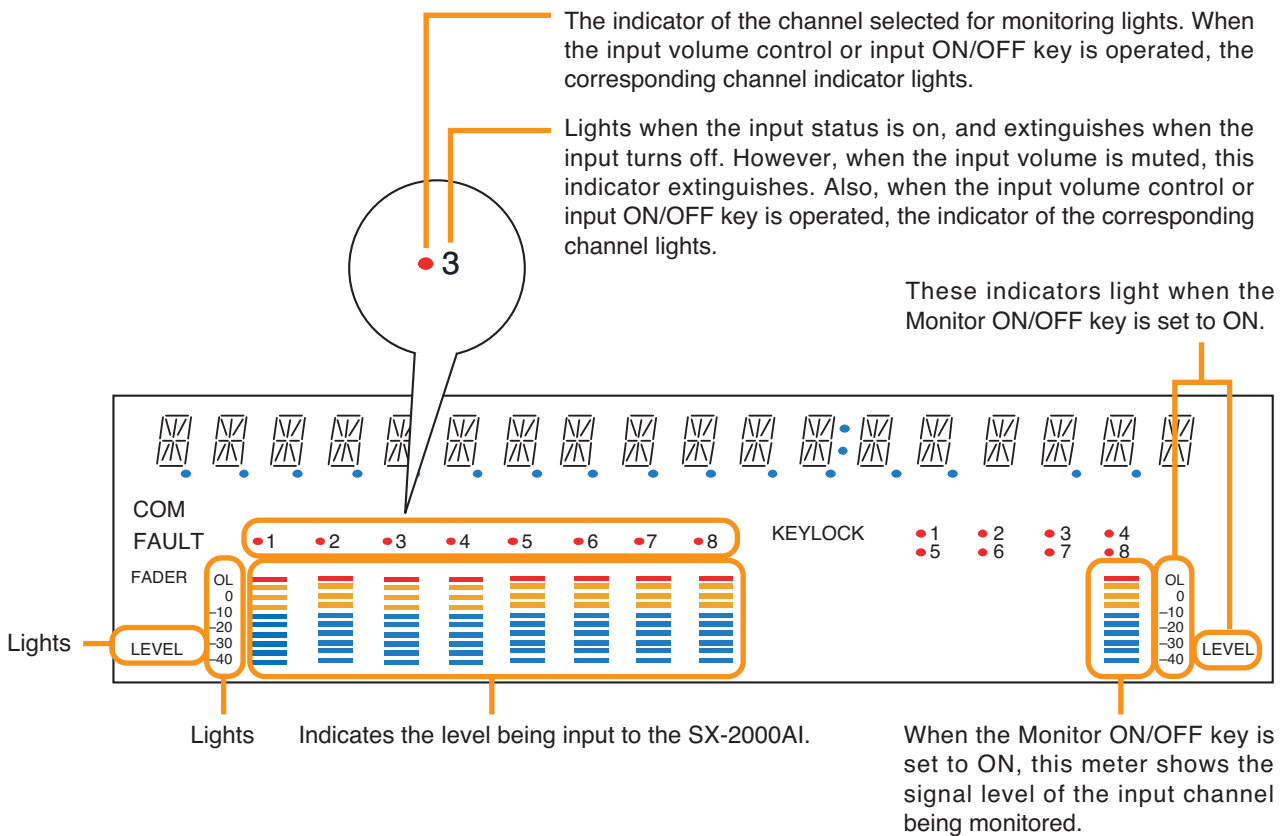SX-2000AI's　　　　　Bus No.　　　SX-2000AO's
input channel　　　　　　　　　　　output channel

A "bus" is a path through which audio signals pass. The SX-2000 system has 16 lines.
The bus selection detail display shows which bus is used to send a broadcast in progress and which output of the SX-2000AO it is sent to. If there are two or more output destinations, only the smallest output channel number is shown first, and this can be switched over to other output destinations by pressing the OK key.
Pressing the plus key increases the input channel number by one and displays the broadcast status for that channel.
Pressing the minus key decreases the input channel number by one and displays the broadcast status for that channel.

Regarding the type of broadcast, "B" is displayed for BGM broadcasts, and "P" is displayed for general-purpose broadcasts. For input channels not making broadcasts, the indication "– – –" is displayed for bus No., for the SX-2000AO's device No., for the SX-2000AO's output channel, and for the type of broadcast.

When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the input volume control or input ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the input status is on, and extinguishes when the input turns off. However, when the input volume is muted, this indicator extinguishes. Also, when the input volume control or input ON/OFF key is operated, the indicator of the corresponding channel lights.

These indicators light when the Monitor ON/OFF key is set to ON.

Lights

Lights　　Indicates the level being input to the SX-2000AI.

When the Monitor ON/OFF key is set to ON, this meter shows the signal level of the input channel being monitored.

2-11

3.3.3. Equipment Information Display (AI11)

```
3 – U N I T   S T A T U S
```

Display screen for menu item "Equipment Information."

[MAC Address Menu Display (AI12), MAC Address Display (AI13)]

```
M A C   A D D R E S S          ⊱          0 0 – 0 5 – F 9 – F F – 8 5 – 3 E
```
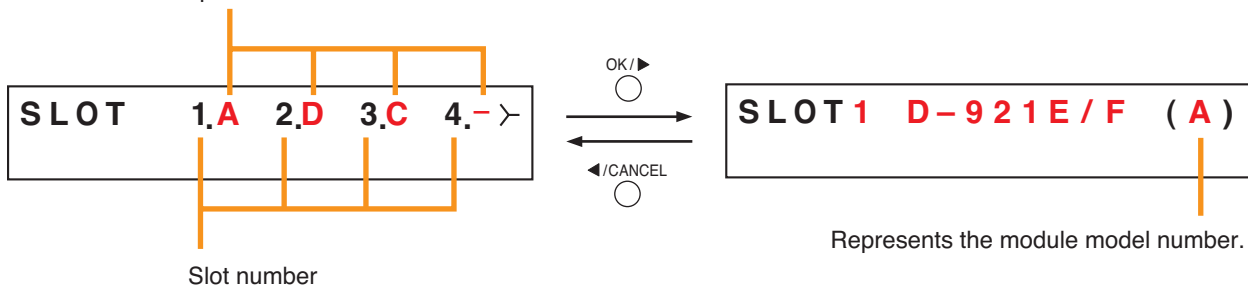
OK/▶

◀/CANCEL
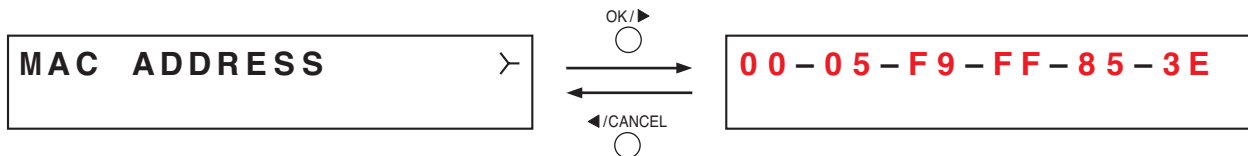
Displays the MAC address* set to the SX-2000AI on the Mac Address Display screen.

* A 12-digit hexadecimal address inherently assigned to and unique to a networking device.

[Slot Status Display (AI14), Slot Status Detail Display (AI15)]

Characters that represent module model numbers.

```
S L O T    1. A   2. D   3. C   4. – ⊱          S L O T 1   D – 9 2 1 E / F   ( A )
```

OK/▶

◀/CANCEL

Slot number

Represents the module model number.

Displays which module is installed in the SX-2000AI's rear panel slots 1 – 4.
Alphabets A – D represents module model numbers as shown below.

    A: D-921E/F
    B: D-922E/F
    C: D-936R
    D: SX-200RM
    –: Module is not installed.

The slot status detail display shows which module is installed in the SX-2000AI's rear panel slots 1 – 4 using a model number for each slot. Slots with no Installed module are displayed as "BLANK."
Pressing the plus key increases the slot number by one and displays information for that slot number.
Pressing the minus key decreases the slot number by one and displays information for that slot number.

[Equipment Version Display (AI16)]

```
U N I T   V E R.   1 _ 0 0 _ 0 0 0
```

Displays the SX-2000AI's firmware version.

[Sub CPU Version Display (AI17)]

```
S U B   C P U   V E R.   1.0
```

Displays the version of software related to operations and displays on the SX-2000AI's front panel.

[Hardware Version Display (AI18)]

```
H.W.   C.0    F.0    P.0    M.0    A.0
```

Displays the hardware version for each circuit board comprising the SX-2000AI unit.
    C: Displays the CPU circuit board version.
    F: Displays the front circuit board version.
    P: Displays the power supply circuit board version.
    M: Displays the motherboard version.
    A: Displays the analog circuit board version.

Chapter 3

SX-2000AO AUDIO OUTPUT UNIT

The SX-2000AO is an audio output unit for use with the SX-2000 system. It is equipped with 8 audio outputs, 8 control inputs, and 8 control outputs. The SX-2000AO also features an emergency audio input and a 24 V emergency cutoff input[*1] which permits the SX-2000AO to be used in conjunction with an emergency broadcast system.

It can be mounted in an EIA equipment rack (2U size[*2]), and multiple units can be installed in different locations with no need to centralize in one location.

Two inputs can be mixed and output. The SX-2000AO receives audio signals from the SX-2000AI Audio Input Unit via digital transmission, but an analog audio input function (1 channel) enables simultaneous all-zone calls for use in emergency situations.

The SX-2000AO is equipped with 2 power inputs, allowing the connection of a backup power supply for use during power failures. Level meters provided for each output channel allow monitoring of audio output levels. Output volumes can be adjusted using the output volume controls on the front panel, however the maximum volume when the volume control knob is rotated fully clockwise is a default value defined by the SX-2000 Setting Software.

Also, any output channel can be monitored using the internal speaker. The key lock function, designed to prevent accidental mistaken operation, can disable output volume control and monitor volume control settings.

[*1] The SX-2000AO has a 24 V emergency cutoff input terminal on the rear panel, allowing control of an emergency audio input. When the SX-2000 system is combined with an emergency broadcast system, a 24 V DC is normally kept being supplied to this emergency cutoff input terminal and is cut off (24 V emergency cutoff function) in emergency situations. This interrupts the general-purpose broadcast from the SX-2000 system, allowing the emergency broadcast system to override it. (For details, see the separate Installation Manual.)
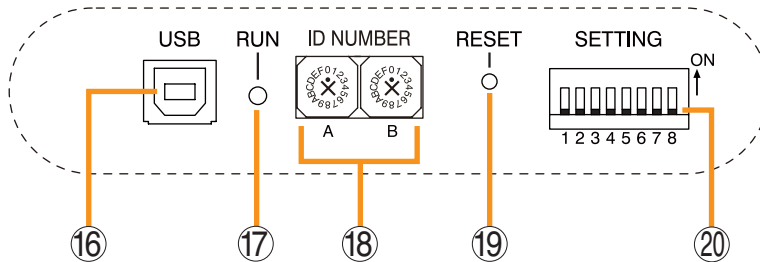
[*2] 1U size = 44.5 mm (standard size)

1. NOMENCLATURE AND FUNCTIONS

[Front]
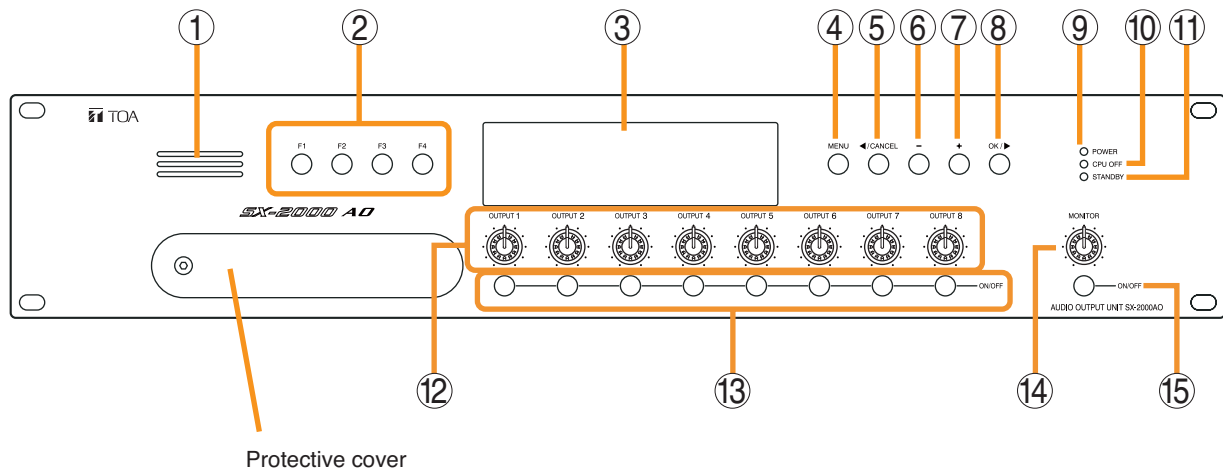
Protective cover

Inside of the protective cover

1. Monitor Speaker
Allows any output channel to be monitored.

2. Function Keys [F1, F2, F3, F4]
Pressing a function key executes the function that has been assigned to that key via the SX-2000 Setting Software.

Function keys can be assigned to change or cancel BGM patterns. Use the SX-2000 Setting Software to assign these functions. (See the separate Setting Software Instructions, "Control Input Settings.")

3. Fluorescent Display
The default display shows device numbers and firmware versions.

Device No.   Firmware version

A O – 1   V E R. 1.0 0
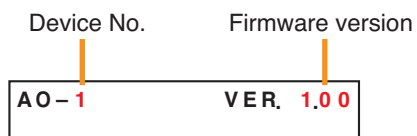
Displays the SX-2000AO's current operation status, output level, etc. (See)

4. Menu Key [MENU]
Pressing this key displays the fluorescent display's menu screen. Whenever this key is pressed, the screen returns to the default display for whatever portion of the menu screen is displayed.

5. Cancel Key [◄/CANCEL]
Used to switch the menu screen.

6. Minus Key [−]
Used to switch the menu screen. When the Monitor ON/OFF Key (15) is set to ON, use this key to select which channel to monitor. The selected channel number decreases by one each time this key is pressed.

7. Plus Key [+]
Used to switch the menu screen. When the Monitor ON/OFF Key (15) is set to ON, use this key to select which channel to monitor. The selected channel number increases by one each time this key is pressed.

8. OK Key [OK/▶]
Used to switch the menu screen.

9. Power Indicator [POWER] (Blue)
Lights when the power is switched on.

10. CPU OFF Indicator [CPU OFF] (Red)
Lights when the CPU turns off (p. 5-7).

11. Standby Indicator [STANDBY] (Green)
Flashes when the fluorescent display is in light shutoff mode and the light stays unlit.

12. Output Volume Controls [OUTPUT 1 – 8]
Adjust the output volume of each output channel. Rotating the control fully counterclockwise mutes the output volume and causes the output ON/OFF indicator (28) on the fluorescent display to turn off.

13. Output ON/OFF Key [ON/OFF]
Turns each output channel on or off. The output channel alternates between on and off each time this key is pressed.

14. Monitor Volume Control [MONITOR]
Adjusts the sound volume of the monitor speaker (1).

15. Monitor ON/OFF Key [ON/OFF]
Enables or disables the audio monitor function for the selected output channel. The monitor function alternates between on and off each time this key is pressed.

16. USB Port [USB]
This port is not used.

17. RUN Indicator [RUN] (Green)
Normally flashes continuously.

18. ID Switch [ID NUMBER]
Sets the SX-2000AO's device number.
(See the separate Installation Manual.)

19. Reset Key [RESET]
Pressing this key resets the SX-2000AO.

Notes
• Resetting the SX-2000AO stops broadcasts currently in progress via the reset SX-2000AO.
• Do not keep pressing the key for over 1 second. The unit cannot operate.
 If the unit operation is suspended, press the Reset key for less than one second again.

20. DIP Switch [SETTING]

• **Switch 1**
Performs key lock function settings. (See p. 3-5.)
ON: Disables operation of the front panel output volume controls, output ON/OFF key, monitor volume control, and monitor ON/OFF key.
OFF: Cancels key lock status.

• **Switches 2 – 7**
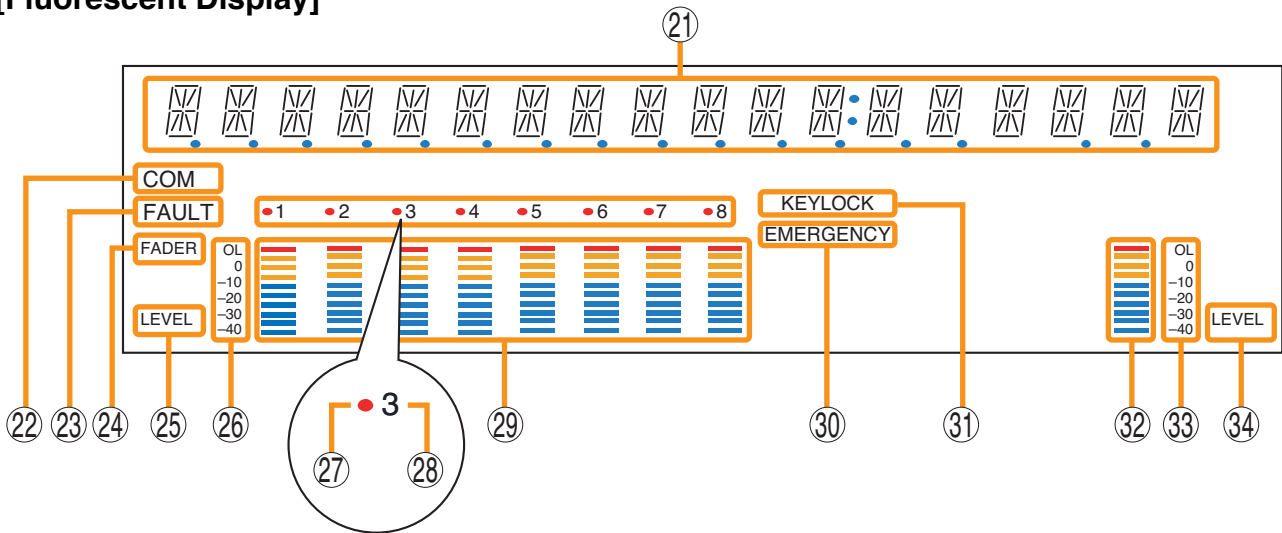These switches are not used.

• **Switch 8**
Enables or disables the 24 V emergency cutoff input on the rear panel.
(See the separate Installation Manual.)

Note
Switches 1 – 8 are set to the OFF position by default.

[Fluorescent Display]

21. Text Display Area
Displays the menu screen information when the corresponding function key is pressed.

22. COM Indicator [COM]
Flashes to indicate a communications error.

23. Fault Indicator [FAULT]
Flashes when a system failure, incorrect system configuration*1 or communications error is detected. This indicator continues to flash until failure conditions return to normal.

*1 When the system or module configuration differs from the contents set by the SX-2000 Setting Software.

24. Output Level Meter Fader Indicator [FADER]
Lights when the output level meter indicates the sound volume set using the SX-2000 Setting Software or output volume control.

25. Output Level Meter Level Indicator [LEVEL]
Lights when the output level meter indicates the level being output to the SX-2000AO.

26. Output Level Meter Scale

27. Output Indicator
The output channel being monitored lights red.

28. Output ON/OFF Indicator
Lights when the corresponding output channel turns on, but remains unlit while the output volume is being muted.

29. Output Level Meter
Indicates the actual level or a set volume value on each output channel.

30. Emergency Indicator [EMERGENCY]
When the 24 V emergency cutoff input*2 is

enabled, this indicator flashes if the input receives an emergency signal.

*2 The SX-2000AO has a 24 V emergency cutoff input terminal on the rear panel, allowing control of an emergency audio input. When the SX-2000 system is combined with an emergency broadcast system, a 24 V DC is normally kept being supplied to this emergency cutoff input terminal and is cut off (24 V emergency cutoff function) in emergency situations. This interrupts the general-purpose broadcast from the SX-2000 system, allowing the emergency broadcast system to override it. (For details, see the separate Installation Manual.)

Note
When the 24 V Emergency cutoff input is set to be disabled (not usable) with the DIP switch 8 inside the protective cover, the Emergency indicator will not flash even if 24 V DC supply to this input terminal is cut off.

31. Key Lock Indicator [KEY LOCK]
Lights when the output volume control, output ON/OFF key, monitor volume control or monitor ON/OFF key is locked. (See ; Key Lock Settings and Cancellation.)

32. Monitor Level Meter
Indicates the sound volume level of the output channel being monitored.

33. Monitor Level Meter Scale
Lights when the monitor ON/OFF key (15) is set to ON.

34. Monitor ON/OFF indicator [LEVEL]
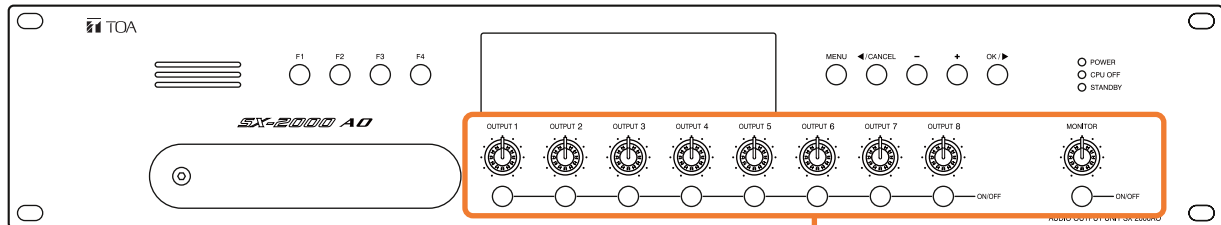Lights when the monitor ON/OFF key (15) is set to ON.

Note
A timer-activated light shutoff function can be set for the fluorescent display via the SX-2000 Setting Software. (See "Configuration Settings" in the software instruction manual.) When the light shutoff function has been set, if the SX-2000AO is not operated for 5 minutes or more, the fluorescent display's light extinguishes and the standby indicator (11) begins to flash.

3-4

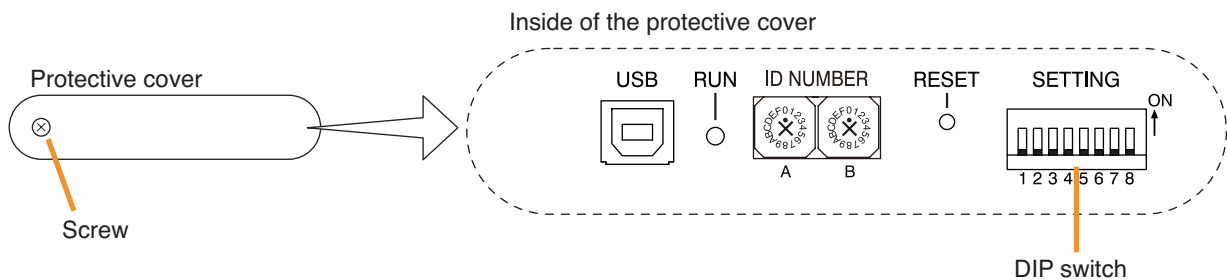## 2. KEY LOCK SETTINGS AND CANCELLATION (DIP Switch 1 Operation)

It is possible to disable the output volume controls, output ON/OFF keys, monitor volume control, and monitor ON/OFF key in order to prevent mistaken operation.

The output volume level set while the key lock function is used takes effect after the key lock has been released. When the key lock function is enabled if the monitor ON/OFF key is set to ON, the monitor function is made off.

Keys that can be locked

Step 1. Remove the protective cover on the SX-2000AO's front panel unscrewing it with a Phillips screwdriver.

Inside of the protective cover

Protective cover

Screw

USB   RUN   ID NUMBER   RESET   SETTING   ON

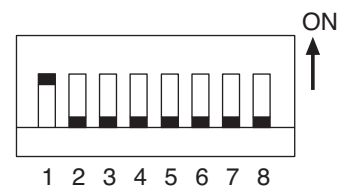A   B   1 2 3 4 5 6 7 8

DIP switch

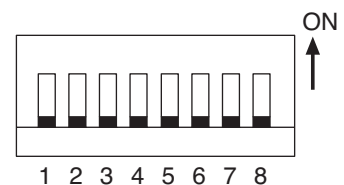**Note:** Switch 1 is set to OFF by default.

Step 2. Set the switches.

2-1. If setting a key lock function:
Set Switch 1 to ON. When keys have been locked, the KEY LOCK indicator in the fluorescent display lights.

ON

1 2 3 4 5 6 7 8

2-2. If canceling a key lock function:
Set Switch 1 to OFF. When key locking has been cancelled, the KEY LOCK indicator in the fluorescent display extinguishes.
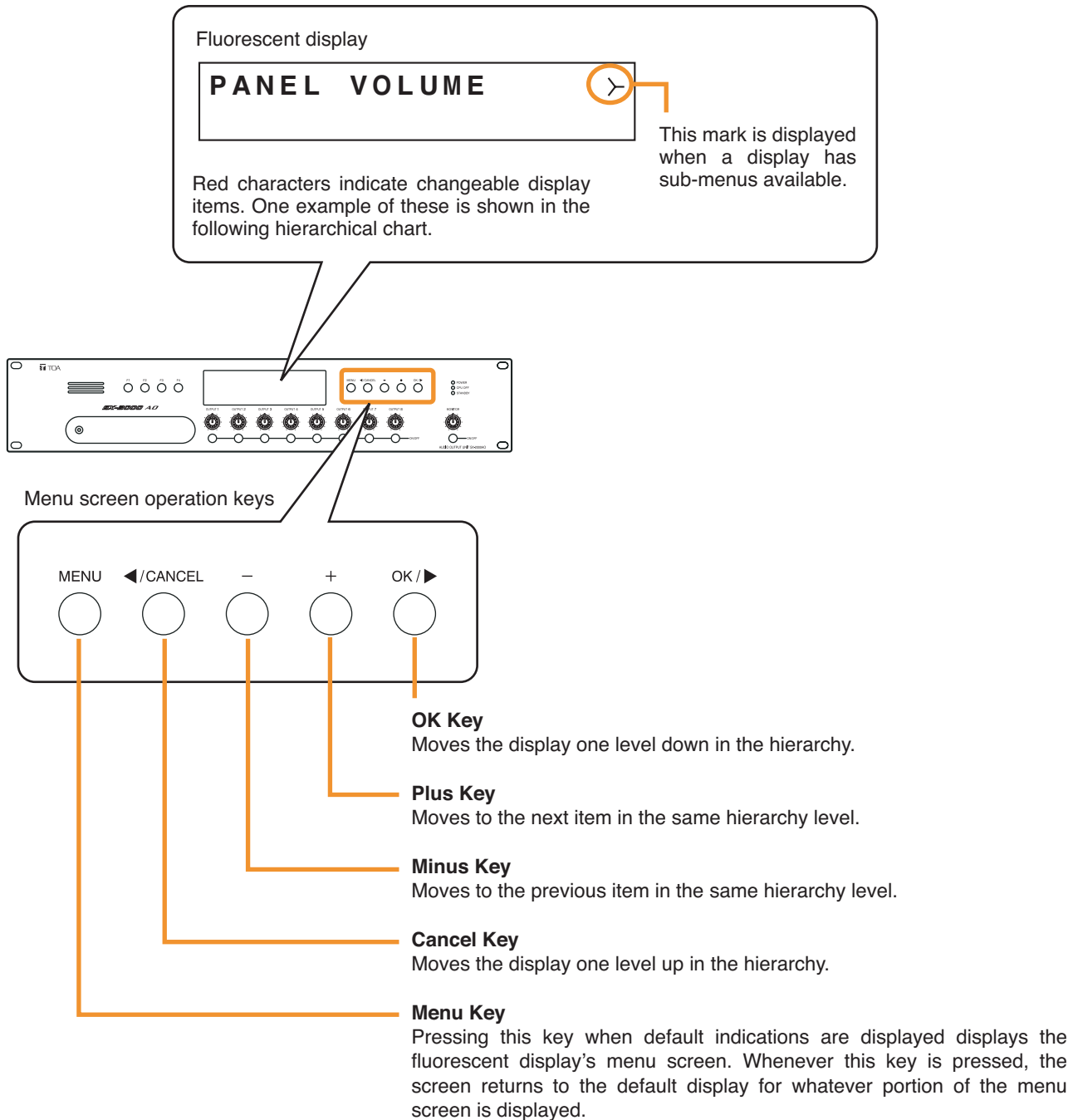
ON

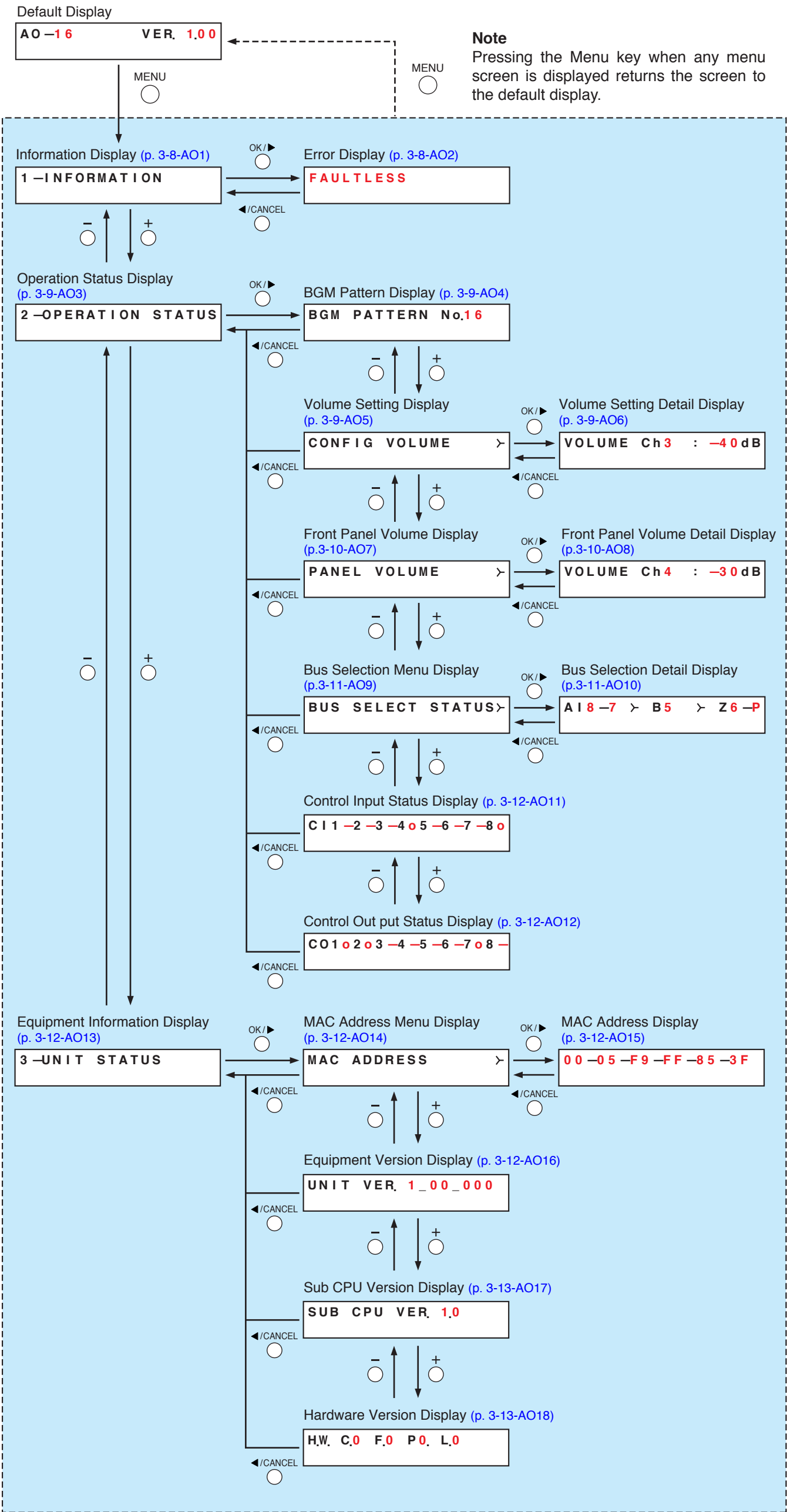1 2 3 4 5 6 7 8

Step 3. Replace the protective cover.

3-5

3. OPERATING THE MENU SCREEN

Setting values can be confirmed or changed from the SX-2000AO's front panel.

3.1. Menu Screen Operation Keys

Fluorescent display

PANEL VOLUME

This mark is displayed when a display has sub-menus available.

Red characters indicate changeable display items. One example of these is shown in the following hierarchical chart.

Menu screen operation keys

MENU   ◀/CANCEL   —   +   OK/▶

OK Key
Moves the display one level down in the hierarchy.

Plus Key
Moves to the next item in the same hierarchy level.

Minus Key
Moves to the previous item in the same hierarchy level.

Cancel Key
Moves the display one level up in the hierarchy.

Menu Key
Pressing this key when default indications are displayed displays the fluorescent display's menu screen. Whenever this key is pressed, the screen returns to the default display for whatever portion of the menu screen is displayed.

3.2. Menu Screen Hierarchical Chart

Default Display

`A O —1 6          V E R.  1.0 0`

MENU ○

MENU ○

Note
Pressing the Menu key when any menu screen is displayed returns the screen to the default display.

Information Display (p. 3-8-AO1)

`1 —I N F O R M A T I O N`

OK/▶ ○

Error Display (p. 3-8-AO2)

`F A U L T L E S S`

◀/CANCEL ○

− ○   + ○

Operation Status Display (p. 3-9-AO3)

`2 —O P E R A T I O N   S T A T U S`

OK/▶ ○

BGM Pattern Display (p. 3-9-AO4)

`B G M   P A T T E R N   No.1 6`

◀/CANCEL ○

− ○   + ○

Volume Setting Display (p. 3-9-AO5)

`C O N F I G   V O L U M E        ⟩`

OK/▶ ○

Volume Setting Detail Display (p. 3-9-AO6)

`V O L U M E   C h 3   :  —4 0 d B`

◀/CANCEL ○

◀/CANCEL ○

− ○   + ○

Front Panel Volume Display (p.3-10-AO7)

`P A N E L   V O L U M E        ⟩`

OK/▶ ○

Front Panel Volume Detail Display (p.3-10-AO8)

`V O L U M E   C h 4   :  —3 0 d B`

◀/CANCEL ○

◀/CANCEL ○

− ○   + ○

Bus Selection Menu Display (p.3-11-AO9)

`B U S   S E L E C T   S T A T U S ⟩`

OK/▶ ○

Bus Selection Detail Display (p.3-11-AO10)

`A I 8 —7   ⟩   B 5    ⟩   Z 6 —P`

◀/CANCEL ○

◀/CANCEL ○

− ○   + ○

Control Input Status Display (p. 3-12-AO11)

`C I 1 —2 —3 —4 o 5 —6 —7 —8 o`

◀/CANCEL ○

− ○   + ○

Control Out put Status Display (p. 3-12-AO12)

`C O 1 o 2 o 3 —4 —5 —6 —7 o 8 —`

◀/CANCEL ○

− ○   + ○

Equipment Information Display (p. 3-12-AO13)

`3 —U N I T   S T A T U S`

OK/▶ ○

MAC Address Menu Display (p. 3-12-AO14)

`M A C   A D D R E S S        ⟩`

OK/▶ ○

MAC Address Display (p. 3-12-AO15)

`0 0 —0 5 —F 9 —F F —8 5 —3 F`

◀/CANCEL ○

◀/CANCEL ○

− ○   + ○

Equipment Version Display (p. 3-12-AO16)

`U N I T   V E R.  1 _0 0 _0 0 0`

◀/CANCEL ○

− ○   + ○

Sub CPU Version Display (p. 3-13-AO17)

`S U B   C P U   V E R.  1.0`

◀/CANCEL ○

− ○   + ○

Hardware Version Display (p. 3-13-AO18)

`H.W.  C.0   F.0   P.0.  L.0`

◀/CANCEL ○

3.3. Explanations of Menu Screen Items

3.3.1. Information Display (AO1)

```
1 – I N F O R M A T I ON
```

Display screen for menu item "Information."

[Error Display (AO2)]

When any of the Fault indicators on the SX-2000SM's front panel is flashing, or when the Fault indicator or COM indicator on the SX-2000AO's fluorescent display is flashing, a brief error message appears in the text display area as shown below.

```
F A U L T L E S S
```
No abnormality or failure is detected.
(Fault and COM indicators: Off)

```
C O M P O N E N T   E R R O R
```
Incorrect system configuration* is detected.
(Fault indicator: Flashing)

* When the system or module configuration differs from the contents set by the SX-2000 Setting Software.

```
F A U L T   D E T E C T E D
```
System failure is detected. (e.g. The RM-200S's microphone has failed.)
(Fault indicator: Flashing)

```
S X   L I N K   C O M   F A U L T
```
Communications error* is detected.
(Fault and COM indicators: Flashing)

* The SX-2000AO cannot communicate with the SX-2000SM.

Note
Contents of failure or abnormality can be confirmed by using the log data stored in the SX-2000SM.

3.3.2. Operation Status Display (AO3)

```
2 – OPERATION  STATUS
```

Display screen for menu item "Operation Status."

[BGM Pattern Display (AO4)]

```
BGM  PATTERN  No.16
```

Displays the pattern number for a BGM broadcast in progress.

[Volume Setting Display (AO5), Volume Setting Detail Display (AO6)]

```
CONFIG  VOLUME        ⊱        VOLUME  Ch3   : – 40dB
```

OK/▶
◀/CANCEL
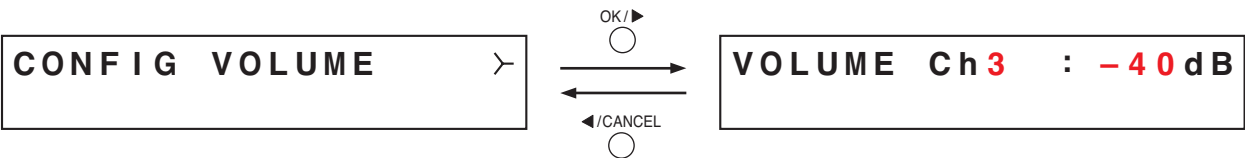
Indicates the output volume level set using the SX-2000 Setting Software in the output level meter.
Besides, on the Volume Setting Detail Display screen, the set value for each output channel can be confirmed.
Pressing the plus key increases the channel number by one and displays the setting value for that channel.
Pressing the minus key decreases the channel number by one and displays the setting value for that channel.

When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the output volume control or output ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the output status is on, and extinguishes when the output turns off. However, when the output volume is muted, this indicator extinguishes. Also, when the output volume control or output ON/OFF key is operated, the indicator of the corresponding channel lights.

COM
FAULT
Lights — FADER
LEVEL

●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8   KEYLOCK
EMERGENCY

OL
0
–10
–20
–30
–40

OL
0
–10
–20
–30
–40 LEVEL

Lights

Indicates the levels set using the SX-2000 Setting Software.
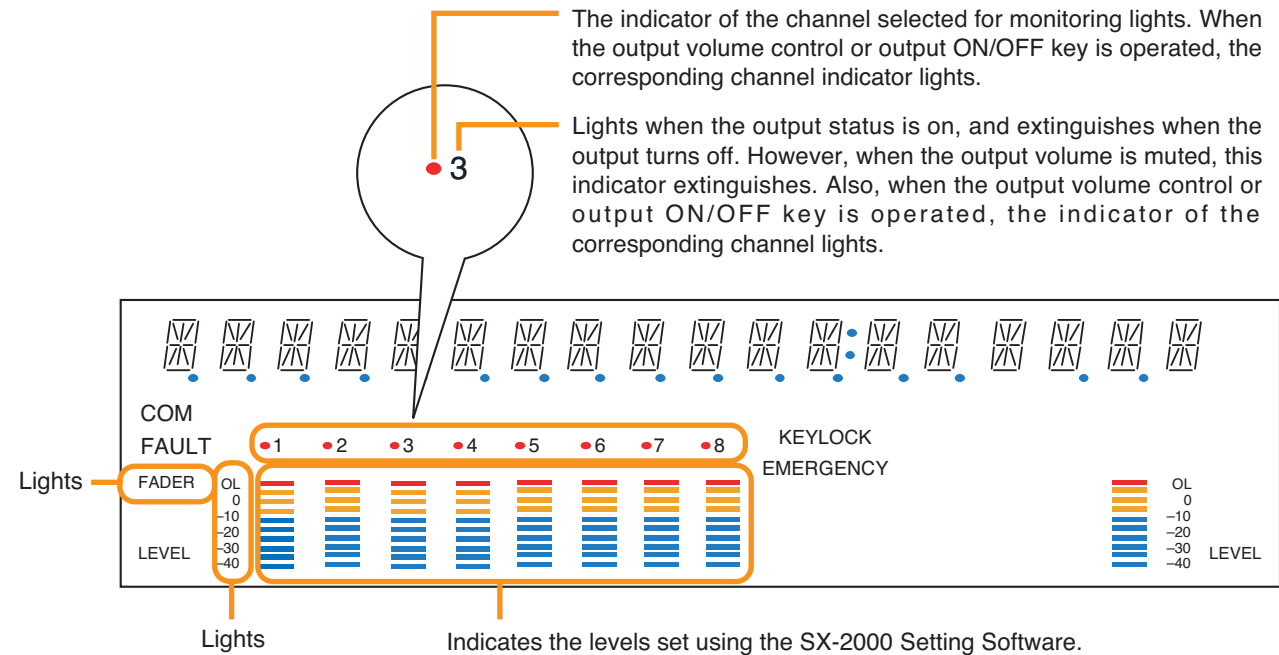
[Front Panel Volume Display (AO7), Front Panel Volume Detail Display (AO8)]

OK/▶

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│ P A N E L   V O L U M E    ⊱ │  ───▶  │ V O L U M E  C h 4  :  − 3 0 d B │
│                             │  ◀───  │                             │
└─────────────────────────────┘        └─────────────────────────────┘
```

◀/CANCEL
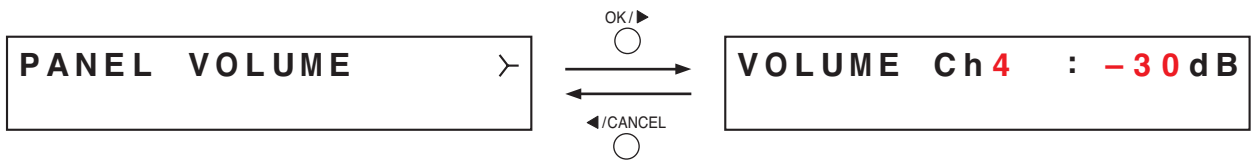
Indicates the output volume level set via the front panel's volume control in the output level meter.
Pressing the plus key increases the channel number by one and displays the setting value for that channel.
Pressing the minus key decreases the channel number by one and displays the setting value for that channel.

When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the output volume control or output ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the output status is on, and extinguishes when the output turns off. However, when the output volume is muted, this indicator extinguishes. Also, when the output volume control or output ON/OFF key is operated, the indicator of the corresponding channel lights.

● 3

COM
FAULT
Lights — FADER
LEVEL

●1 ●2 ●3 ●4 ●5 ●6 ●7 ●8   KEYLOCK
EMERGENCY

OL
0
−10
−20
−30
−40

OL
0
−10
−20
−30
−40 LEVEL

Lights

Indicates the levels set using the Output volume controls.

3-10
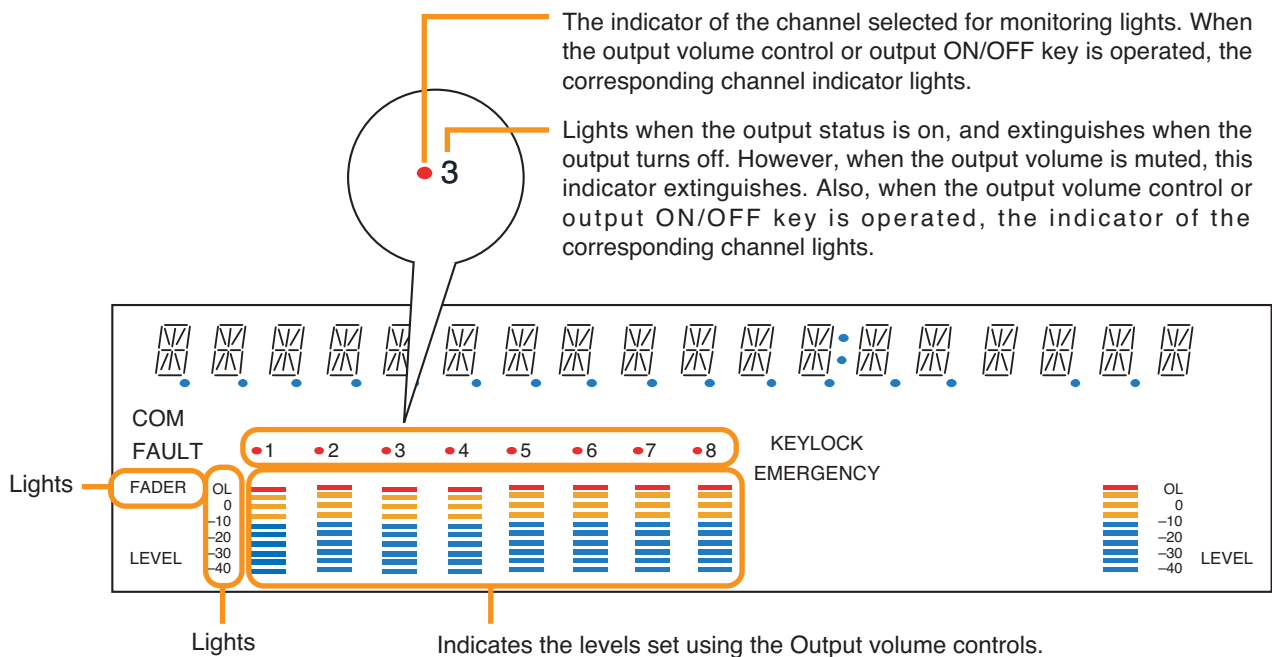
[Bus Selection Menu Display (AO9), Bus Selection Detail Display (AO10)]
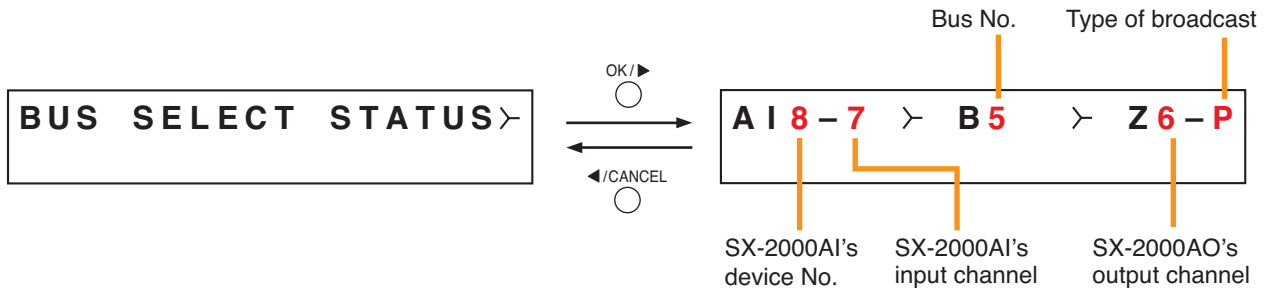
A "bus" is a path through which audio signals pass. The SX-2000 system has 16 lines.
The bus selection detail display shows which input sound source is being sent to the SX-2000AO's output channel through which bus.
Pressing the plus key increases the output channel number by one and displays the broadcast status for that channel.
Pressing the minus key decreases the output channel number by one and displays the broadcast status for that channel.

Regarding the type of broadcast, "B" is displayed for BGM broadcasts, and "P" is displayed for general-purpose broadcasts. This broadcast type indication alternates between "B" and "P" each time the OK key is pressed. For output channels not making broadcasts, the indication "– – –" is displayed for the SX-2000AI's device No., for the SX-2000AI's input channel, and for the bus No.

When these screens are displayed, the entire fluorescent display is as follows:

The indicator of the channel selected for monitoring lights. When the output volume control or output ON/OFF key is operated, the corresponding channel indicator lights.

Lights when the output status is on, and extinguishes when the output turns off. However, when the output volume is muted, this indicator extinguishes. Also, when the output volume control or output ON/OFF key is operated, the indicator of the corresponding channel lights.

These indicators light when the Monitor ON/OFF key is set to ON.

Lights

Lights   Indicates the level being output from the SX-2000AO.

When the Monitor ON/OFF key is set to ON, this meter shows the signal level of the output channel being monitored.

3-11

[Control Input Status Display (AO11)]

```
C I 1 – 2 – 3 – 4 o 5 – 6 – 7 – 8 o
```

Displays the current control input status.
"o" is displayed when the control input is on, and "–" is displayed when the control input is off.

[Control Output Status Display (AO12)]

```
C O 1 o 2 o 3 – 4 – 5 – 6 – 7 o 8 –
```

Displays the current control output status.
"o" is displayed when the control output is on, and "–" is displayed when the control output is off.

3.3.3. Equipment Information Display (AO13)

```
3 – U N I T   S T A T U S
```

Display screen for menu item "Equipment Information."

[MAC Address Menu Display (AO14), MAC Address Display (AO15)]

```
MAC  ADDRESS                ⊁
```

OK/▶

◀/CANCEL

```
0 0 – 0 5 – F 9 – F F – 8 5 – 3 F
```
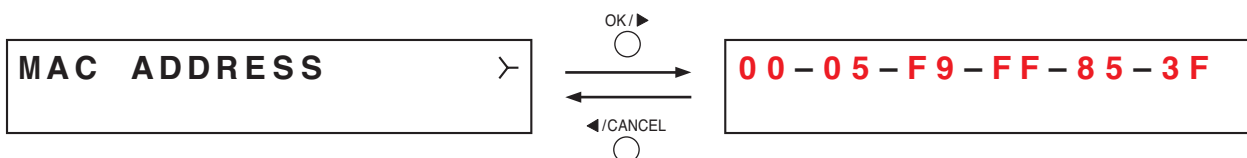
Displays the MAC address* set to the SX-2000AO on the Mac Address Display screen.

* A 12-digit hexadecimal address inherently assigned to and unique to a networking device.

[Equipment Version Display (AO16)]

```
U N I T   V E R. 1 _ 0 0 _ 0 0 0
```

Displays the SX-2000AO's firmware version.

[Sub CPU Version Display (AO17)]

```
S U B   C P U   V E R.  1.0
```

Displays the version of software related to operations and displays on the SX-2000AO's front panel.

[Hardware Version Display (AO18)]

```
H.W.  C.0   F.0   P 0.  L.0
```

Displays the hardware version for each circuit board comprising the SX-2000AO unit.
    C: Displays the CPU circuit board version.
    F: Displays the front circuit board version.
    P: Displays the power supply circuit board version.
    L: Displays the link circuit board version.

Chapter 4

REMOTE MICROPHONE
RM-200S

REMOTE MICROPHONE EXTENSION
RM-210

The RM-200S Remote Microphone features 13 function keys, 1 covered key, 1 talk key, and the indicator lamps associated with these. The function keys can be used to select broadcast zones, change or cancel BGM patterns. These functions are assigned to the function keys using the SX-2000 Setting Software.
Connecting RM-210 extension units (maximum 4) to the RM-200S expands the number of function keys and indicators in blocks of ten.

1. NOMENCLATURE AND FUNCTIONS

1.1. RM-200S

[Top]
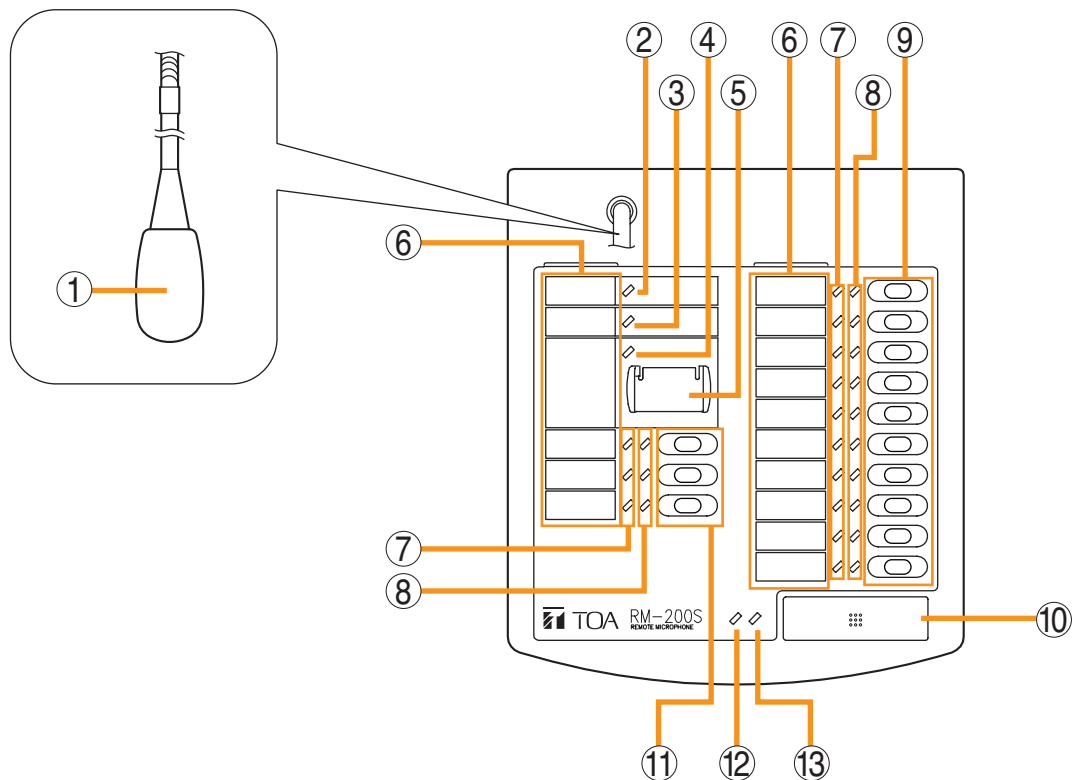
1. Microphone
Used for voice announcements.

2. Power Indicator (Green)
Lights when the power is turned on.

3. Failure Indicator (Orange/Red)
Flashes orange if some problem within the system is detected.
This indicator will light orange if the signal to the SX-2000AI to which the RM-200S is connected is interrupted for 5 seconds or more.
This indicator will light red while the CPU is an "off" condition (p. 5-7) or the RM-200S is in the reset process.

4. Indicator
This indicator is not used.

5. Urgency All-Call Key (Covered)
Usually not used. Urgency all-zone calls can be made by performing settings of the DIP switch (14) to place the CPU in an "off" state (p. 5-7).

6. Indication Label Insert Slots
Labels can be printed using the SX-2000 Setting Software. (See the separate Setting Software Instructions, " Printing Labels for Remote Microphones.")

7. Broadcast Status Indicators (Orange/Green)
Light, flash, or extinguish depending on the current operational state of function keys (p. 4-5).

8. Selection Indicators (Green)
Light or extinguish depending on the current operational state of function keys (p. 4-5).

9. Function Keys (R1 – R10)
Positioned in top-down order (R1, R2 ... R10). Pressing a specific function key executes the function that has been assigned to that key by the SX-2000 Setting Software.
Function keys can be assigned functions to select broadcast zones, and change and cancel BGM patterns.
Assignment of functions to specific keys is done using the SX-2000 Setting Software. (See the separate Setting Software Instructions, "RM Function Key Settings.")
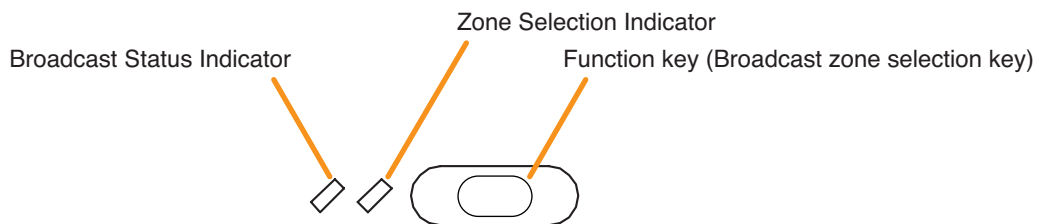
10. Talk Key

Press this key to broadcast a voice announcement. If the Talk key is set to "PTT" ("press-to-talk") mode, then it must be pressed continuously for the duration of the broadcast. If the Talk key is set to "Lock" mode, then it must be pressed once to turn the microphone on at the beginning of a broadcast, then pressed again to turn the microphone off once the broadcast is finished.

The microphone can also be set to sound a chime at the beginning and/or end of each broadcast.

The Talk key mode ("PTT" or "Lock") and the chime function are set using the SX-2000 Setting Software. (See the separate Setting Software Instructions, "RM Function Key Settings.")

11. Function Keys (L1 – L3)

Positioned in top-down order (L1, L2, L3). Pressing a specific function key executes the function that has been assigned to that key by the SX-2000 Setting Software.

Function keys can be assigned functions to select broadcast zones, and change and cancel BGM patterns.

Assignment of functions to specific keys is done using the SX-2000 Setting Software. (See the separate Setting Software Instructions, "RM Function Key Settings.")

12. Broadcast Status Indicator (Orange/Green)

Lights, flashes, or extinguishes depending on the current operational state of the Talk key.

13. Microphone Indicator (Green)

Lights or extinguishes depending on the current operational state of the Talk key.

[Side]
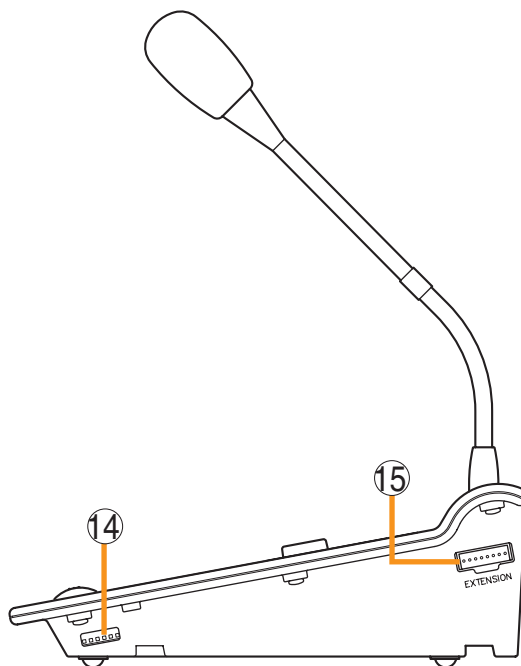
14. DIP Switch

Used to assign device numbers, set the CPU to ON or OFF, etc.

(The procedure for setting the DIP switch to place the CPU to an "off" state (p. 5-7) is described in the separate Installation Manual.)

15. RS-210 Extension Connector

This port is used to connect RM-210 extension units.

4-3

1.2. RM-210

[Top]
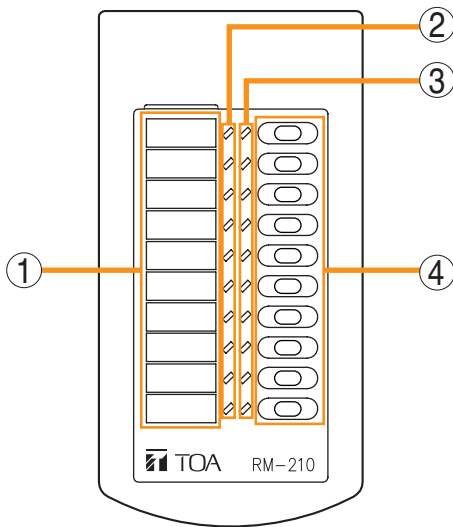
1. **Indication Label Insert Slot**
   Labels can be printed using the SX-2000 Setting Software. (See the separate Setting Software Instructions, " Printing Labels for Remote Microphones.")

2. **Broadcast Status Indicators (Orange/Green)**
   Light, flash, or extinguish depending on the current operational state of function keys.

3. **Selection Indicators (Green)**
   Light or extinguish depending on the current operational state of function keys

4. **Function Keys (1 – 10)**
   Positioned in top-down order (1, 2 ... 10). Pressing a specific function key executes the function that has been assigned to that key by the SX-2000 Setting Software.
   Function keys can be assigned functions to select broadcast zones, and change and cancel BGM patterns.
   Assignment of functions to specific keys is done using the SX-2000 Setting Software. (See the separate Setting Software Instructions, "RM Function Key Settings.")

2. INDICATOR STATUS

2.1. Indicators During Zone Selection

When a zone selection (pattern or individual) function has been assigned to a function key, the 2 indicators to the left of the key indicate its zone selection and broadcast status.

Note
For instructions on assigning functions to function keys, see the separate Setting Software Instructions, "RM Function Key Settings."

Zone Selection Indicator

Broadcast Status Indicator   Function key (Broadcast zone selection key)

Indicator meanings are as follows:

Indicator	Status		Meaning
Zone Selection Indicator	Unlit		No zone selected
	Lights green		Zone selected
Broadcast Status Indicator	Unlit		No zone selected or BGM broadcast in progress
	Flashes green		A part of zones or the entire zone is in use for general-purpose broadcast by some other device (such as secondary Remote Microphones), or a part of the zones is engaged by a broadcast from the primary Remote Microphone.
	Lights orange		All zones selected by the zone selection key on the primary Remote Microphone are engaged by a broadcast from the primary Remote Microphone.

2.2. Talk Key Indicators

Broadcast Status Indicator   Microphone Indicator   Talk Key
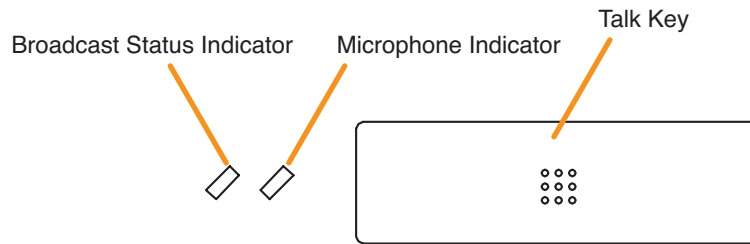
The meanings of the 2 indicators next to the Talk Key are as follows:

Indicator	Status		Meaning
Microphone Indicator	Unlit		Microphone not in use
	Lights green		Microphone in use
Broadcast Status Indicator	Unlit		Zone not in use (microphone announcement possible)
	Flashes green		A part of zones or the entire zone selected by the primary Remote Microphone is occupied by a general-purpose broadcast from another device (secondary Remote Microphone, chime, etc.), or a broadcast from the primary Remote Microphone is in progress in a part of the zones selected by the primary Remote Microphone.
	Lights orange		All zones selected by the primary Remote Microphone are engaged by a broadcast from the primary Remote Microphone.

2.3. Indicators When Changing BGM Patterns

When a BGM pattern change function has been assigned to a function key, the 2 indicators to the left of the key indicate its pattern selection and broadcast status.

Note
For instructions on assigning functions to function keys, see the separate Setting Software Instructions, "RM Function Key Settings."

Pattern Selection Indicator

Broadcast Status Indicator   Function key (BGM pattern change key)
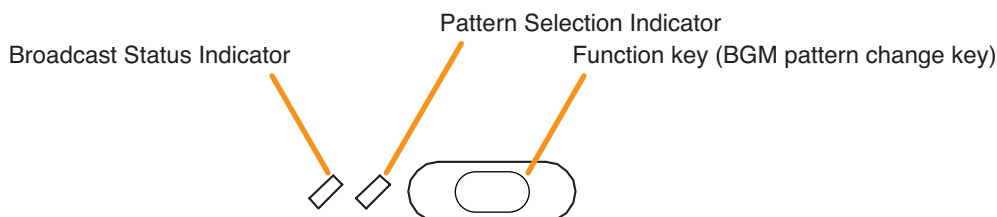
The meanings of the 2 indicators next to the Function Key are as follows:

| Indicator	Status		Meaning
Pattern Selection Indicator	Unlit		When the function key is not pressed
	Lights green		When the function key is pressed (Lights briefly, then extinguishes)
Broadcast Status Indicator	Unlit		When the BGM pattern assigned to the function key is not being broadcast
	Lights orange		When the BGM pattern assigned to the function key is being broadcast (including broadcasts activated by other devices)

4-6

Chapter 5

OPERATION

1. BROADCASTING

1.1. Broadcasting from the SX-2000AI or SX-2000AO

Function keys F1 – F4 on the front panel can be used to change or end the BGM pattern.
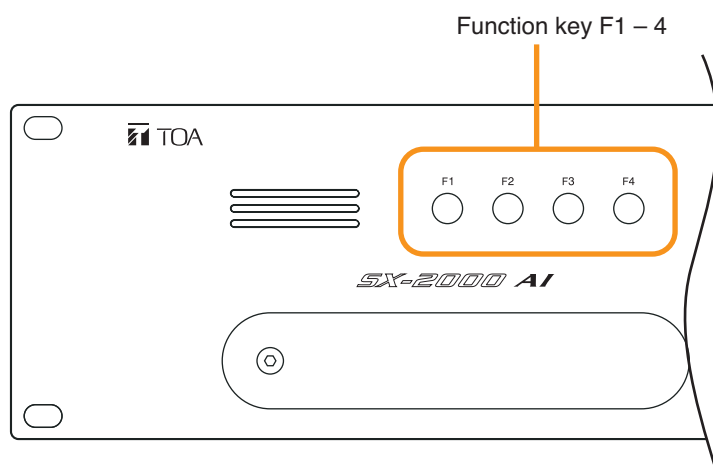
Note: The figure shows the SX-2000AI.

For instructions on setting functions to function keys, ee the separate Setting Software Instructions, "Control Input Settings."

[Setting example to function keys]

Key	Item Name	Function
Function key F1	BGM pattern 1	Activation of BGM pattern 1 broadcast
Function key F2	BGM pattern 2	Activation of BGM pattern 2 broadcast
Function key F3	BGM end	End of BGM

[BGM Broadcast Example]

Following is the operation example in the case where BGM broadcast is made by the BGM pattern 1 in the morning and changed to the BGM pattern 2 in the afternoon, and then ended.

Step 1. Press function key F1 (BGM pattern 1) to activate BGM pattern 1 broadcast.

Step 2. Press function key F2 (BGM pattern 2) to switch BGM pattern 1 broadcast to BGM pattern 2 broadcast.

Step 3. Press function key F3 (BGM end) to end BGM.

1.2. Broadcasting from the RM-200S and RM-210

The function keys can be used to make microphone announcements and to change or end BGM broadcasts.
For instructions on setting functions to function keys, see the separate Setting Software Instructions, "RM Function Key Settings."
The example here shows the RM-200S, but the basic operation and displays are the same for the RM-210.

[Setting example to function keys]

Key	Item Name	Function
Function key R1	Zones 1, 2 and 3	Zone selection (pattern)
Function key R2	Zone 1	Zone selection (individual)
Function key R3	Zone 2	Zone selection (individual)
Function key R4	Zone 3	Zone selection (individual)
Function key R5	Zone clear	Reset the selected zone.
Function key L1	BGM pattern 1	Activation of BGM pattern 1 broadcast
Function key L2	BGM pattern 2	Activation of BGM pattern 2 broadcast
Function key L3	BGM end	End of BGM
Talk key		Lock type, Star Chime: 1, End Chime: None
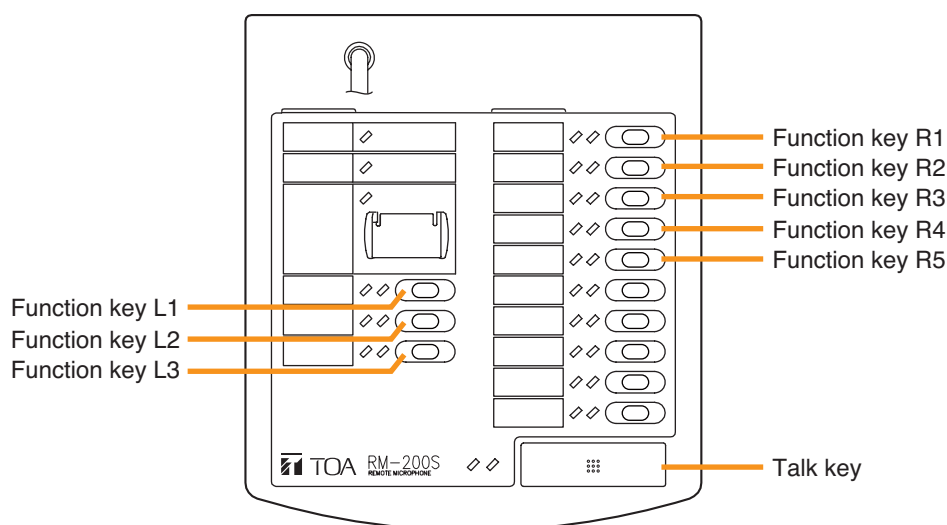
1.2.1. Example of broadcasting to the selected (pattern-designated) zone

Step 1. Press function key R1 (zones 1, 2 and 3).
All of the designated zones are selected, and the zone selection indicator next to function key R1 lights green.
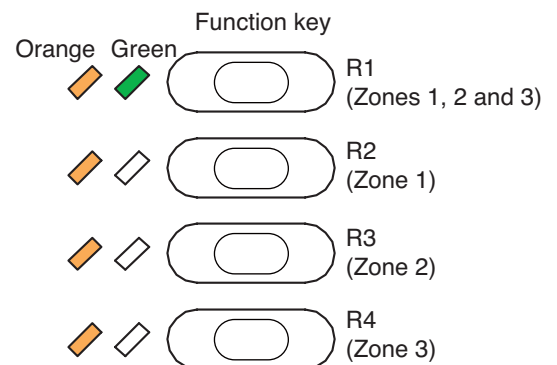
> **Note**
> To cancel the selection, press function key R1 again, or press function key R5 (zone clear). The zone selection indicator will extinguish.
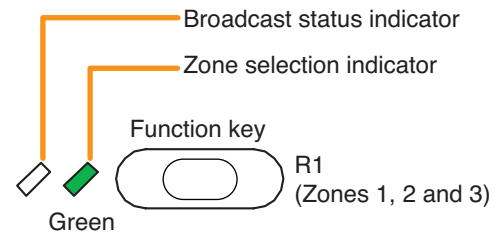
Broadcast status indicator
Zone selection indicator
Function key
R1 (Zones 1, 2 and 3)
Green

Step 2. Press the Talk key.
A chime will be broadcast. This chime will be audible through the monitor speaker built in the RM-200S.

Orange   Green
R1 (Zones 1, 2 and 3)

Broadcast status indicator
Microphone indicator
Talk key
Orange
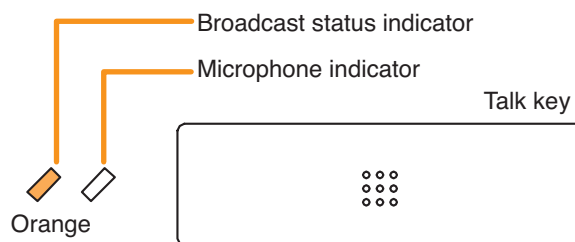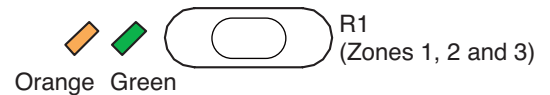
Step 3. When the microphone indicator next to the Talk key lights green, make the microphone announcement.
The zones assigned to function keys R2 – R4 are included within the zone selection pattern assigned to function key R1. Therefore, the broadcast status indicators next to function keys R2 – R4 will light orange in the same way.

Function key
Orange   Green
R1 (Zones 1, 2 and 3)
R2 (Zone 1)
R3 (Zone 2)
R4 (Zone 3)

Talk key
Orange   Green

Step 4. Press the Talk key.
The broadcast ends.

Step 5. Press function key R5 (zone clear).
The zone selection is cancelled.

> **Note**
> If it is desired that the zone selection be left unchanged, there is no need to clear the selected zones.

5-4

1.2.2. Example of broadcasting to the selected (individual) zone

Step 1. Press function key R2 (zone 1) and function key R3 (zone 2).
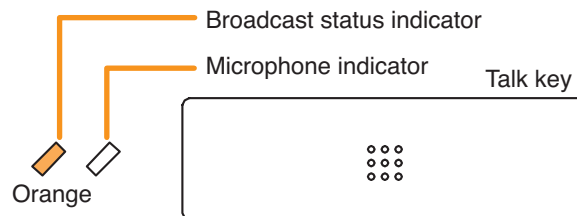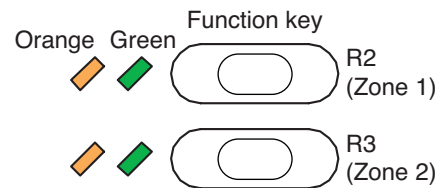Zones 1 and 2 are selected, and their zone selection indicators light green.

Note
To cancel a selected zone, press the function key for that zone again. The zone selection indicator for that key will extinguish.
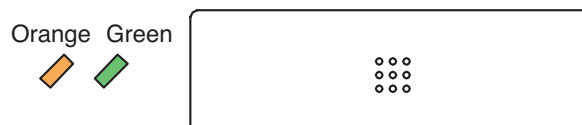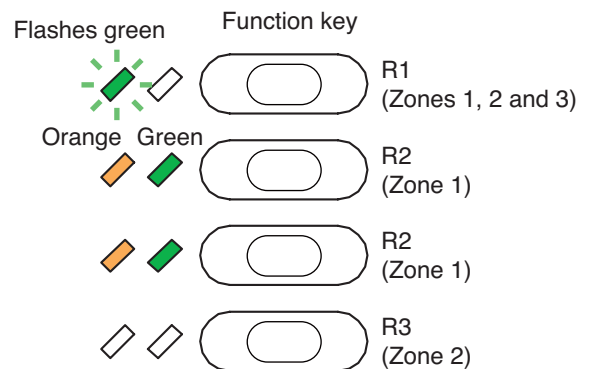To cancel all selected zones, press function key R5 (zone clear). Both zone selection indicators will extinguish.
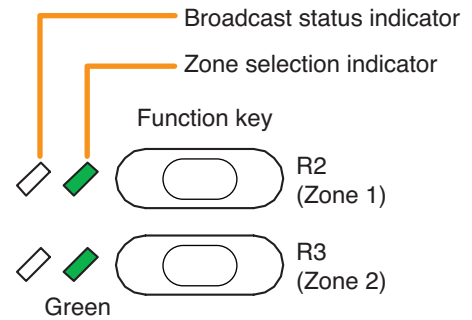
Broadcast status indicator
Zone selection indicator
Function key
R2 (Zone 1)
R3 (Zone 2)
Green

Step 2. Press the Talk key.
A chime will be broadcast. This chime will be audible through the monitor speaker built in the RM-200S.

Orange Green
Function key
R2 (Zone 1)
R3 (Zone 2)

Broadcast status indicator
Microphone indicator
Talk key
Orange

Step 3. When the microphone indicator next to the Talk key lights green, make the microphone announcement.
Because a potion of the pattern assigned to function key R1 is included in the selected zones, the broadcast status indicator next to this key will flash green.

Flashes green
Function key
R1 (Zones 1, 2 and 3)
Orange Green
R2 (Zone 1)
R2 (Zone 1)
R3 (Zone 2)

Orange Green

Step 4. Press the Talk key.
The broadcast ends.

Step 5. Press function key R5 (zone clear).
The zone selection is cancelled.

Note
If it is desired that the zone selection be left unchanged, there is no need to clear the selected zones.

1.2.3. Example of BGM broadcasting

Following is the operation example in the case where BGM broadcast is made by the BGM pattern 1 in the morning and changed to the BGM pattern 2 in the afternoon, and then ended.

Step 1. Press the function key L1 (BGM pattern 1).
BGM pattern 1 is selected and activated.
After the selection indicator next to function key L1 lights green then extinguishes, the broadcast status indicator lights orange.

> **Note**
> To cancel the selection, press function key R3 (BGM end). The broadcast status indicator will extinguish.
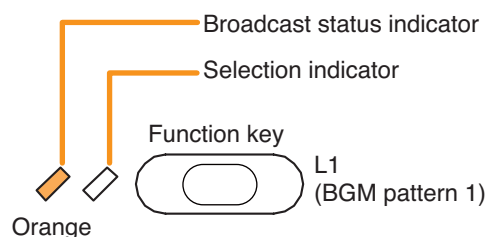
Step 2. Press function key L2 (BGM pattern 2).
BGM pattern 2 is selected, ending BGM pattern 1, and BGM pattern 2 is activated.
After the selection indicator next to function key L2 lights green then extinguishes, the broadcast status indicator lights orange.
The broadcast status indicator next to function key L1 extinguishes.
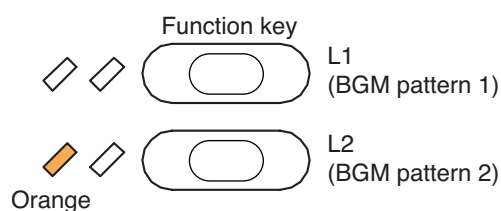
Step 3. Press function key L3 (BGM end).
BGM ends. All indicators extinguish.
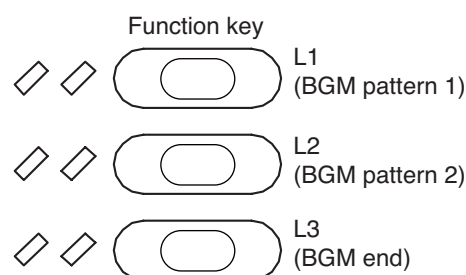
1.2.4. Making urgency all-zone calls (when placing the CPU in an "off" condition)

If normal broadcasts cannot be made due to system failure or some trouble, only an all-zone call is possible in the following procedure.
This is a broadcast made by bypassing the CPU[*1] that normally operates in the SX-2000 system. (For details, see the separate Installation Manual.)
If the SX-2000 system receives a 24 V emergency cutoff signal[*2], the urgency all-zone call is disabled because the emergency broadcast system takes precedence over the SX-2000 system.

[*1] CPU is a central processing unit, which is built in the SX-2000SM, SX-2000AI, and SX-2000AO.

[*2] In the SX-2000 system, a 24 V emergency cutoff input terminal that allows control of an emergency audio input is provided on the SX-2000AO's rear panel. When the SX-2000 system is combined with an emergency broadcast system, a 24 V DC is normally kept being supplied to this emergency cutoff input terminal and is cut off (24 V emergency cutoff function) in emergency situations. This interrupts the general-purpose broadcast from the SX-2000, allowing the emergency broadcast system to override it. (For details, see the separate Installation Manual.)
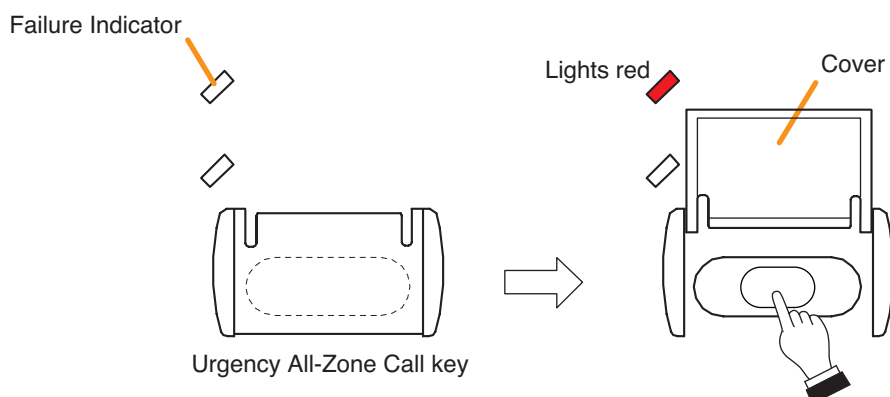
Step 1. Set DIP switch 5 on the side panel to the ON position.

Note
DIP switch 5 is set to the ON position by default.
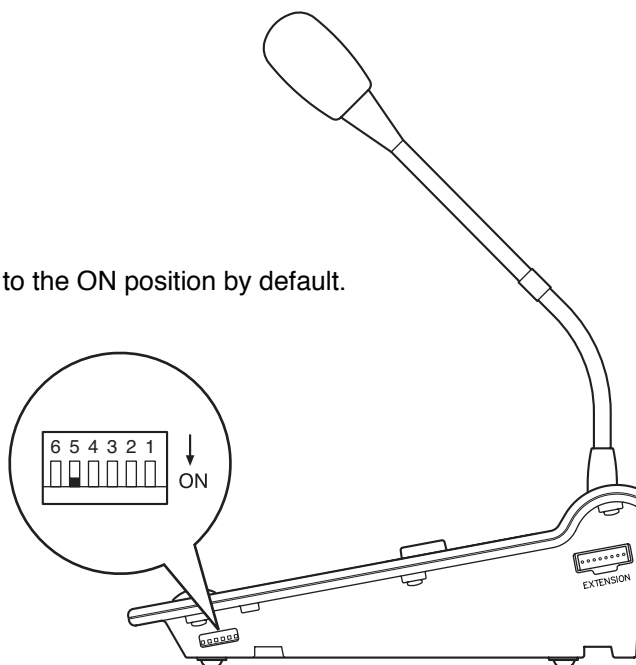
Step 2. Open the cover of the Urgency All-Zone Call key, then press the key continuously while making the broadcast through the microphone.
The failure Indicator will light red.

Failure Indicator

Lights red   Cover

Urgency All-Zone Call key

5-7

2. ADJUSTING INPUT/OUTPUT VOLUME

It is possible to adjust the volume for each input channel via the front panel of the SX-2000AI. It is also possible to adjust the volume for each output channel via the front panel of the SX-2000AO. The adjustment method is the same for both.

Note: The figure shows the SX-2000AI.
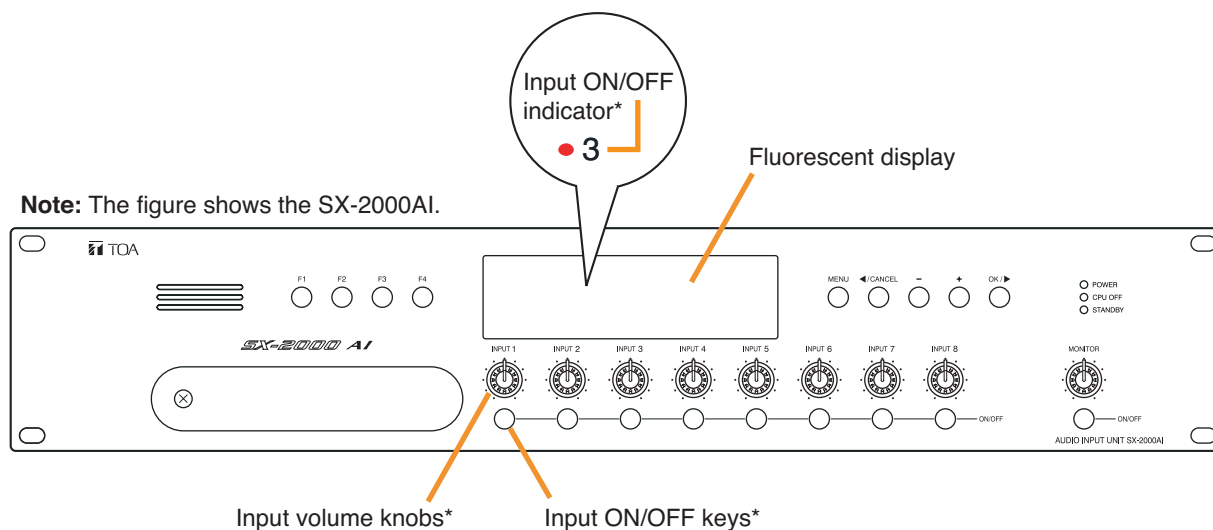
* The figure above shows the input volume controls and input ON/OFF keys for the SX-2000AI. The panel is configured the same for the SX-2000AO, except that the input controls shown will be the output volume knob and output ON/OFF key.

Set the ON/OFF key for the desired input (output) channel to ON, then use the volume knob above it to adjust the volume.

When the ON/OFF key is set to ON, the input (output) ON/OFF indicator on the fluorescent display lights. However, if the input (output) volume knob has been set to the minimum volume position by rotating it fully counterclockwise, the channel remains OFF and the input (output) ON/OFF indicator also remains unlit.

The setting value for the input (output) volume knob can be confirmed using menu screen AI8 (AO8).

3. MONITORING INPUT/OUTPUT CHANNELS

The SX-2000AI and SX-2000AO are equipped with monitor speakers on their front panels, which allow monitoring of each input (SX-2000AI) or output (SX-2000AO) channel. The monitoring method is the same for both.

Note: The figure shows the SX-2000AI.
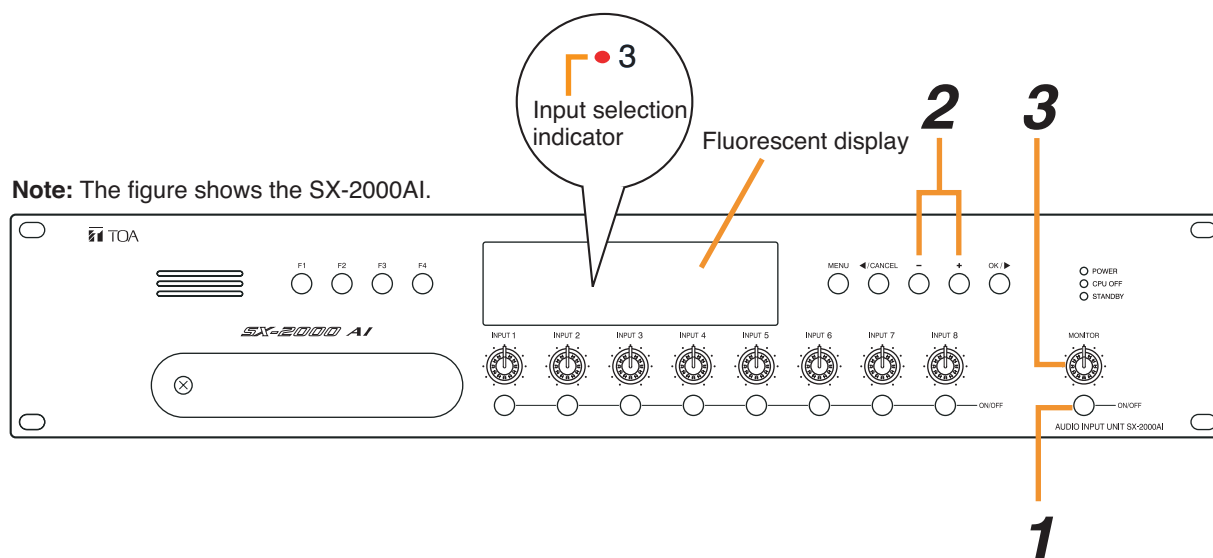
Note
The indications on the fluorescent display described below are those when the unit displays the default screen.

Step 1. Set the Monitor ON/OFF key to ON.
The monitor ON/OFF indicator and monitor level meter scale on the fluorescent display will light.

Step 2. Use the plus or minus key to select the desired input (output) channel to be monitored.
Pressing the plus key increases the channel number, while pressing the minus key decreases the channel number. The input (output) indicator for the selected channel will light red on the fluorescent display.

Step 3. Use the monitor volume control to adjust the volume.

Note
The channel to be monitored can also be selected by turning an input (output) volume control, or by setting an input (output) ON/OFF key to ON, but doing so will affect broadcasts in progress.

200610