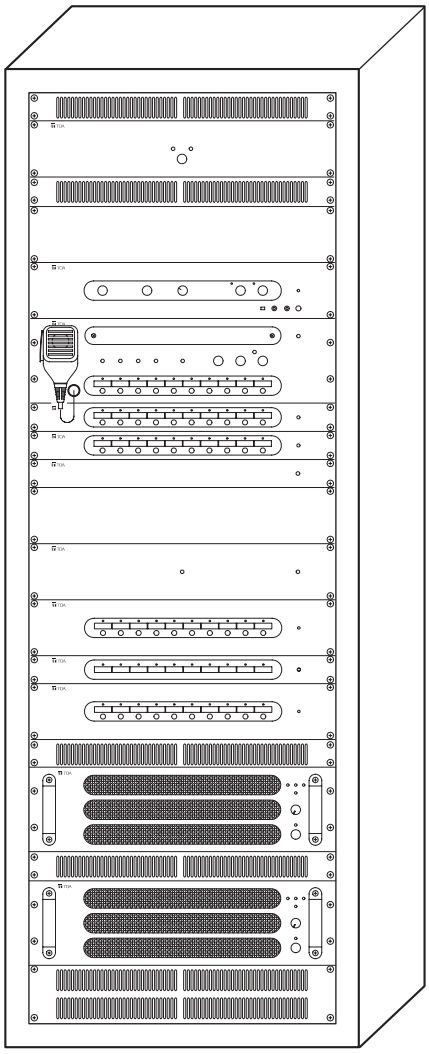
TOA

OPERATING INSTRUCTIONS

VOICE EVACUATION SYSTEM

FS-7000 SERIES



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

TOA Corporation

TABLE OF CONTENTS

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

⚠ **WARNING**	Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

⚠ WARNING

When Installing the Unit

- FS-7000PS/7006PA/7012PA only

  Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.

  Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.

  Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.

- FS-7006PA/7012PA, YA-7000 only

  Be sure to replace the unit's terminal cover after connection completion. Because the voltage of up to 100 V is applied to the high impedance speaker terminals (FS-7006PA/7012PA, YA-7000) and Main/standby Amplifier terminals (YA-7000), never touch these terminals to avoid electric shock.

- All units

  Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down and causing personal injury and/or property damage.

  Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.

  Owing to the unit's size and weight, be sure that at least two persons are available to install the unit. Failure to do so could result in personal injury.

  Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.

When the Unit is in Use

- FS-7000PS/7006PA/7012PA only

  To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to qualified service personnel.

  Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.

  Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

  Do not touch a plug during thunder and lightning, as this may result in electric shock.

⚠ WARNING

When the Unit is in Use

• All units

Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.

· If you detect smoke or a strange smell coming from the unit.
· If water or any metallic object gets into the unit
· If the unit falls, or the unit case breaks
· If the power supply cord is damaged (exposure of the core, disconnection, etc.):
FS-7000PS/7006PA/7012PA only
· If it is malfunctioning (no tone sounds.)

⚠ CAUTION

When Installing the Unit

• FS-7000PS/7006PA/7012PA only

Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.

When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.

When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.

Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire. Also, periodically clean the ventilation slots of dust.

To avoid electric shocks, be sure to switch off the unit's power when connecting speakers.

Be sure to follow the instructions below when rack-mounting the unit. Failure to do so may cause a fire or personal injury.

· Install the equipment rack on a stable, hard floor. Fix it with anchor bolts or take other arrangements to prevent it from falling down.
· When connecting the unit's power cord to an AC outlet, use the AC outlet with current capacity allowable to the unit.

• All units

Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

When unpacking or moving the unit, be sure to handle it with two or more persons. Falling or dropping the unit may cause personal injury and/or property damage.

When the Unit is in Use

• FS-7006PA/7012PA only

Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.

• FS-7000CP/7006PA/7012PA only

Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.

• FS-7000PS/7006PA/7012PA only

If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.

Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

• All units

Contact your TOA dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.

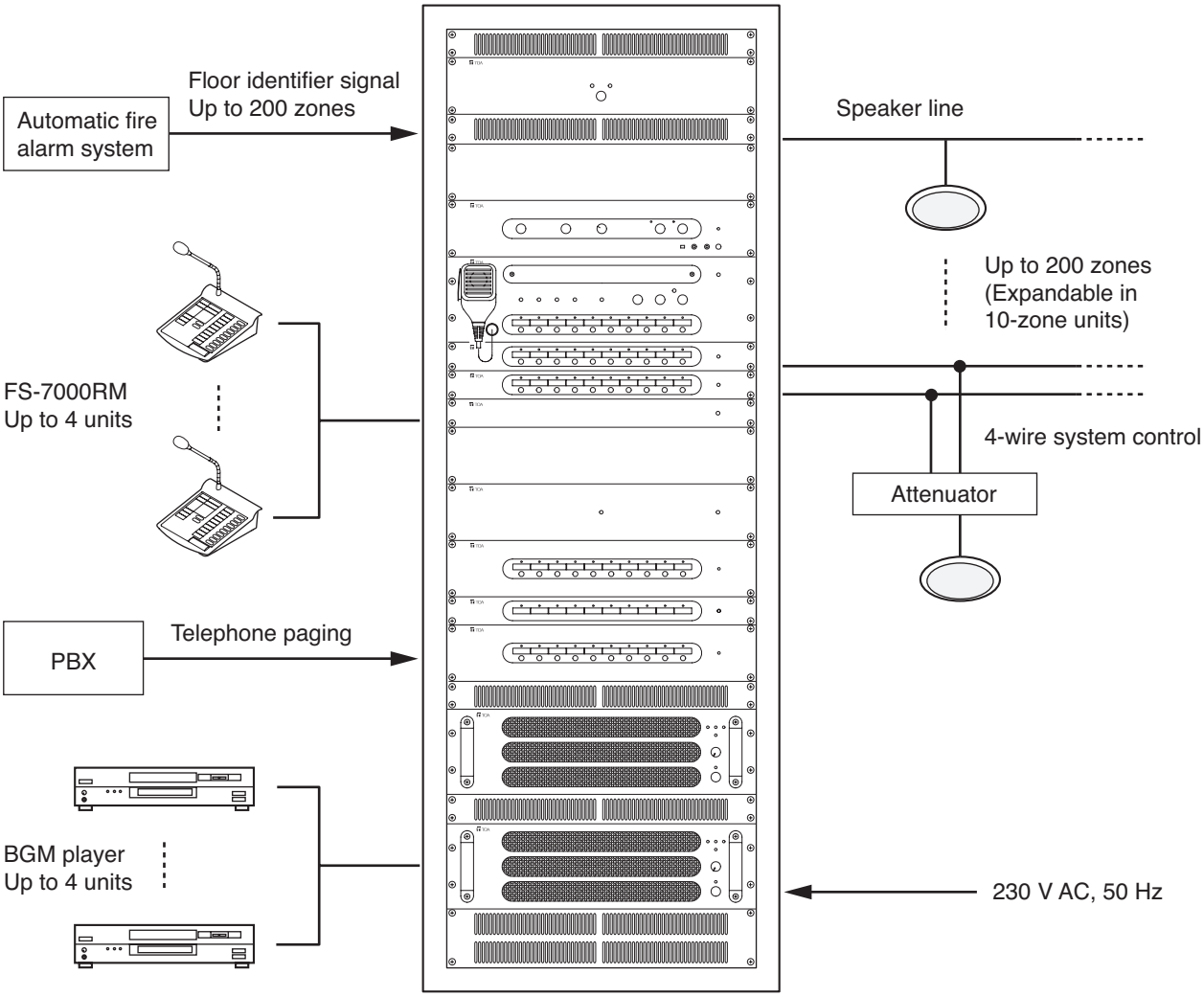
2. SYSTEM SUMMARY

The FS-7000 system is a combined emergency/general-purpose broadcasting system.
It is capable of automatically broadcasting the emergency evacuation messages recorded to the FS-7000EV to areas linked to automatic fire alarm systems, as well as manually making emergency broadcasts to specifically selected areas, either via microphone or by pre-recorded announcement.
The FS-7000EV can be recorded with 2 different messages using a connected microphone or audio playback equipment, for example 1 message offering evacuation instructions and the other a false alarm announcement. The combined available recording time for these 2 messages is 3 minutes.
General-purpose broadcasting from the FS-7000CP or FS-7000RM can go to specific individual areas or to multiple areas selected as a group. General all-zone calls can be either "Normal" or "Urgency." Urgency all-zone calls are made to all areas and override speaker attenuators to deliver the broadcast at maximum volume.
The installation of a YA-7000 within the power amplifier connected to a standby amplifier allows broadcasts to continue uninterrupted, even in the event that the main power amplifier fails, by automatically switching the broadcast to the standby unit.

Note

For details on setting up and using the various available functions, refer to pages 9 through 17 covering the names and functions of each part or component.

[System Diagram]



3. FEATURES

- The FS-7000EV is loaded with English language messages when shipped from the factory.
- The semiconductor memory incorporated in the FS-7000EV ensures stable rebroadcast of recorded messages.
- If speaker lines are shorted, the line protection fuse disconnects the shorted lines and a line short indication is displayed.
- Simultaneous 2-channel broadcasts can be made of BGM (background music) and announcement broadcasts (emergency and priority broadcasts), allowing BGM broadcasts to continue in zones not selected for announcement broadcasts, even when announcements are being made.
- Up to 4 remote microphones can be connected.
- Up to 200 speaker lines can be controlled.
- Time signals can be simultaneously broadcast over all zones by connecting timer-operated sound sources.
- All-zone calls can be made from a telephone set by connecting the system to a telephone exchange.
- Connection of the emergency power supply panel permits emergency broadcasts to be made even during a power failure.

4. HANDLING PRECAUTIONS

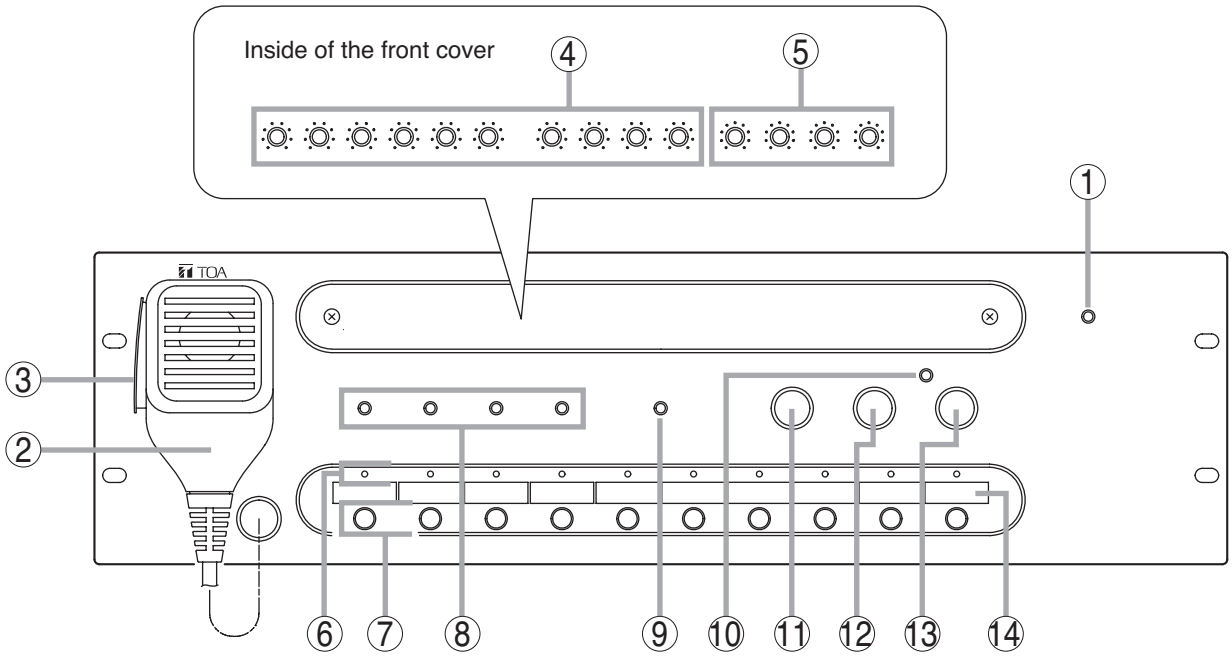
- When moving equipment from one place to another or when installing optional components in an equipment rack, leave all necessary work to your TOA dealer.
- Ensure that the front and rear of the component are sufficiently distant from the wall to facilitate operation and maintenance service.
- When cleaning components, be sure to first switch off the power, then wipe with a dry cloth. If they are very dirty, use a cloth moistened in a neutral cleanser. Never use volatile liquids, such as benzene, thinner or chemically-treated towels, since the component surface is damaged.

5. NOMENCLATURE AND FUNCTIONS

5.1. FS-7000CP Control Panel

The FS-7000CP is a standard operation panel for the FS-7000 Series Voice Evacuation Systems.
It is designed to be used in conjunction with the FS-7000JP panel, and enables individual paging calls to up to 10 zones plus all-zone calls.
The number of zones can be expanded to up to 200 zones in 10-zone units by connecting the FS-7010CP expansion panel. Further, connection of both the FS-7000GM panel and the FS-7010CP panel permits creation of up to 20 broadcast zone groups.
The FS-7000CP is equipped with a built-in pre-amplifier function and chime unit (ascending 4-note tone). Audio output can be set to either a 2-channel output of background music (BGM) and priority broadcast or a 1-channel output of mixed BGM and priority broadcast.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7000CP is ready for operation.

2. CP Microphone
Make announcements while holding down the Talk Switch (3). The microphone can be used only while the FS-7000CP panel is in use or emergency broadcasts are in progress.

3. Talk Switch
Hold down this switch to make announcements using the microphone.

4. Volume Controls
Adjust the sound volume for each audio input.
Turning the control clockwise increases the volume, while turning it counterclockwise decreases the volume.
Controls are arranged from left to right as follows:

• EV
Adjusts the volume of the EV Audio Input on the rear panel.

• TIMER
Adjusts the volume of the Timer Input on the rear panel.

• PAGING
Adjusts the volume of the Paging Input on the rear panel.

• RM MIC
Adjusts the volume of the RF Audio Input on the rear panel.

• CP MIC
Adjusts the volume of the CP Microphone (2).

• CHIME
Adjust the volume of the built-in 4-tone chime.

• BGM 1 – 4
Adjusts the volume of BGM Inputs 1 – 4 on the rear panel.

5. Tone Controls

Adjust high and low frequencies of the output. Frequencies are accentuated when the control is rotated clockwise, and attenuated when rotated counterclockwise. Controls are arranged from left to right as follows:

• PRIORITY BASS

Adjusts the low frequencies of the Priority Output on the rear panel.

• PRIORITY TREBLE

Adjusts the high frequencies of the Priority Output on the rear panel.

• BGM BASS

Adjusts the low frequencies of the BGM Output on the rear panel.

• BGM TREBLE

Adjusts the high frequencies of the BGM Output on the rear panel.

6. Zone Indicators

Light to indicate current broadcast zones.

Note

These indicators also light during emergency broadcasts when broadcast zones are selected by signal inputs from an automatic fire alarm system.

7. Zone Selector Keys

Press these keys to select broadcast zones. To cancel the selection, press the keys again.

Multiple broadcast zones can be selected simultaneously with the additional use of the FS-7000GM panel.

8. Busy Status Indicators

The indicator corresponding to the component currently in use for broadcast lights while the system is in general-purpose broadcast mode.

Note

These indicators do not light during emergency broadcasts.

The priorities of the indicators are: TIMER, PAGING, RM MIC, and CP IN-USE from high to low. (Emergency broadcasts take precedence over all other equipment operations.)

Each indicator is arranged from left to right as follows:

• TIMER

Remains lit during broadcasts from the component connected to the timer input.

• PAGING

Remains lit during broadcasts from the component connected to the paging input.

• RM MIC

Remains lit during broadcasts from the FS-7000RM.

• CP IN-USE

Remains lit during broadcasts from the FS-7000CP. Announcements can be made via the CP Microphone (2).

9. Speaker Line Short Indicator

Lights when 1 or more speaker lines connected to the FS-7000JP have shorted.

(See page 30.)

10. All-Zone Call Indicator

Lights when the All-Zone Call button (13) is pressed to select all broadcast zones simultaneously. (Lights continuously only while the FS-7000CP is operating or emergency broadcasts are being made.)

11. Chime Button

Sounds a built-in 4-tone chime. This button can be used only while the FS-7000CP is operating.

12. Reset Button

Resets the broadcast zones selected with the Zone Selector keys (7) or All-Zone Call button (13). Pressing this button also terminates general-purpose broadcasts provided from the FS-7000CP.

13. All-Zone Call Button

Selects all broadcast zones simultaneously.

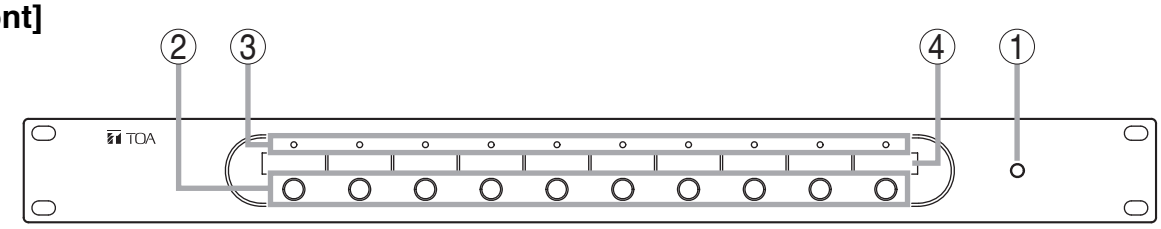
14. Broadcast Zone Fill-In Space

Write the names of zones to be selected with the Zone Selector keys (7) in this space.

5.2. FS-7010CP Expansion Control Panel

The FS-7010CP is used to expand the broadcasting capacity of FS-7000 Series Voice Evacuation Systems. Announcements and background music can be broadcast to up to 10 individual zones. Connecting the FS-7000GM to the FS-7000CP/FS-7010CP combination permits broadcasts to be made to up to 20 zone groups.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7010CP is ready for operation.

2. Zone Selector Keys
Press these keys to select broadcast zones. To cancel the selection, press the keys again.
Multiple broadcast zones can be selected simultaneously with the additional use of the FS-7000GM.

3. Zone Indicators
Light to indicate current broadcast zones.

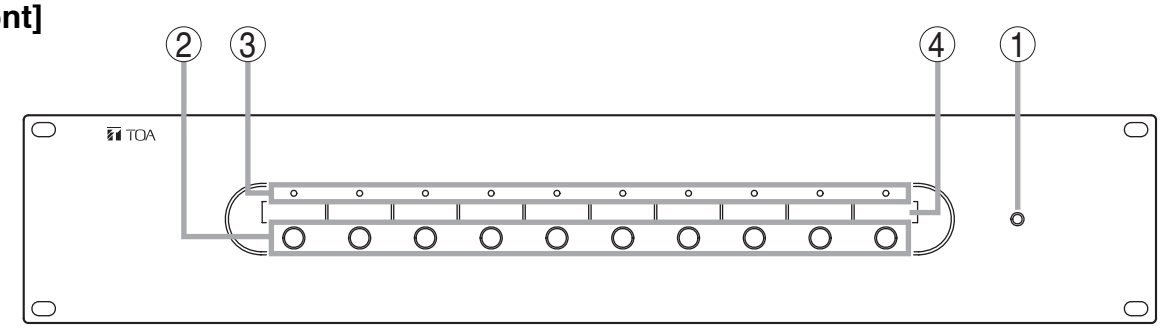
Note
These indicators also light during emergency broadcasts when their corresponding zones are selected by automatic fire alarm signals.

4. Broadcast Zone Fill-In Space
Write the names of zones to be selected with the Zone Selector keys (2) in this space.

5.3. FS-7000JP Junction Panel

The FS-7000JP panel is used in conjunction with the FS-7000CP and the FS-7010CP to connect speaker lines in FS-7000 Series Voice Evacuation Systems. It can connect up to 10 speaker lines. If speaker lines are shorted, the line protection fuses disconnect the shorted lines, leaving broadcasts to other speaker lines functioning intact. The FS-7000JP is equipped with BGM input and priority broadcast input, with BGM broadcast zones selectable using the keys on the front panel. Priority broadcast zones are selected using the FS-7000CP.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7000JP panel is ready for operation.

2. BGM Zone Selector Keys
Press these keys to select BGM broadcast zones. Press the keys again to cancel the selection. (2-channel broadcast)

3. Speaker Line Indicators
Indicate speaker line operating statuses as follows:

Green: BGM broadcast in progress (2-channel broadcast)

Orange: BGM broadcast in progress (1-channel broadcast) or priority or emergency broadcasts in progress

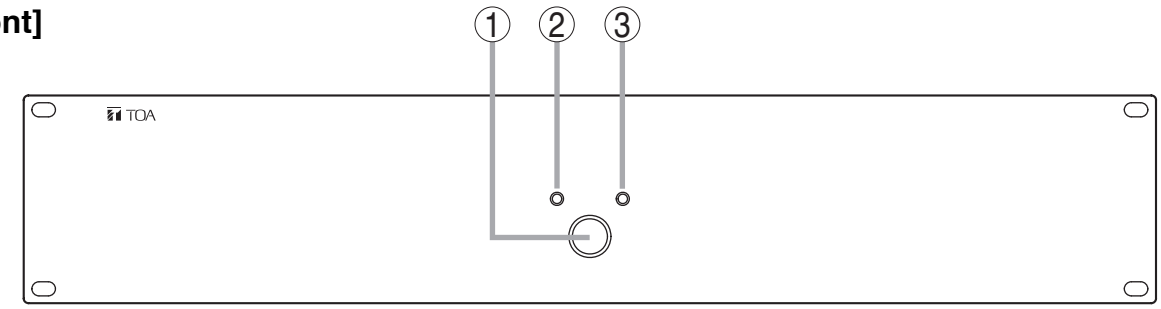
Red: Short-circuit (see page 30.)

4. Broadcast Zone Fill-In Space
Write the names of zones to be selected with the BGM Zone Selector keys (2) in this space.

5.4. FS-7000PS DC Power Supply Panel

The FS-7000PS supplies 24 V DC power to each component used in FS-7000 Series Voice Evacuation Systems. Connecting the DS-029B provides a power supply for emergency broadcasts even during power failures.

[Front]



1. AC Power Switch
AC power is turned on and off with each press of this switch.

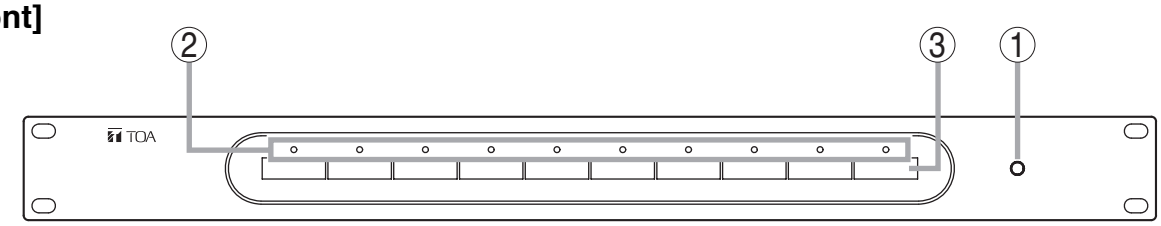
2. AC Power Indicator
Lights when AC power is supplied and the FS-7000PS is ready for operation on AC power.

3. DC Power Indicator
Lights when DC power is supplied and the FS-7000PS is ready for operation on DC power.

5.5. FS-7000AT Attenuator Control Panel

The FS-7000AT is used in conjunction with FS-7000 Series Voice Evacuation Systems to control 4-wire system attenuators. Up to 10 zones can be attenuator-controlled. When general urgency or emergency broadcasts are made, the FS-7000AT provides 24 V DC power to allow such broadcasts to bypass the attenuators. The output status of each line can be monitored by the indicators on the front panel.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7000AT is ready for operation.

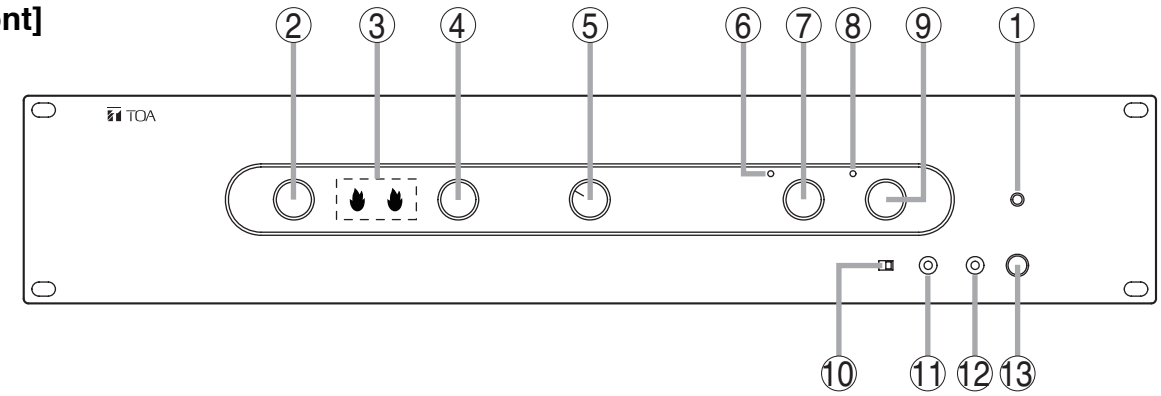
2. Attenuator Line Indicators
Light when 24 V DC for bypassing the attenuators are being supplied, and extinguish when the overcurrent protection circuit is triggered due to line shorts or other failures, or when the power supply is cut off.

3. Broadcast Zone Fill-In Space
Write the names of the corresponding broadcast zones in this space.

5.6. FS-7000EV Voice Evacuation Panel

The FS-7000EV is an emergency broadcast operation panel for FS-7000 Series Voice Evacuation Systems. This panel is not required if the system is to be used solely for general-purpose public address applications. It is possible to start and reset emergency broadcasts through manual operation. The FS-7000EV has a built-in voice alarm device that can make both evacuation and false alarm announcements. Not only are evacuation announcements automatically broadcast when the system receives a fire instruction signal from the connected automatic fire alarm system, they can also be initiated using the Evacuation Announcement button on the front panel. False alarm announcements can be initiated using the False Alarm Announcement button on the front panel. Evacuation and false alarm announcement messages can also be recorded using the appropriate buttons on the front of the panel, in which case the recorded message can be confirmed by listening with headphones.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7000EV is ready for operation.

2. Emergency Reset Button
When it is confirmed that a fire has been extinguished or other emergency situations have returned to normal, press this button to terminate emergency broadcasts after resetting the connected automatic fire alarm system.

3. Fire Indicator
Indicates that an emergency broadcast is in progress. This indicator lights when a fire detection signal is transmitted from the automatic fire alarm system or when the Emergency Activation button (4) is pressed.

4. Emergency Activation Button
Press this button to manually initiate emergency broadcasts after the occurrence of fire has been confirmed.

5. Mode Selector Switch
Selects the operation mode of the FS-7000EV unit to be used as a sound source for evacuation and false alarm announcements. Set the mode to "NORMAL" in general use. No voice alarm is output when the mode is set to "MONITOR" or "RECORD."
Functions of the 3 switch positions are as follows:

NORMAL: Select this mode in general use. Voice alarms are provided at the time of emergency broadcast.

MONITOR: Allows the operator to listen to messages recorded on a sound source.

RECORD: Records evacuation and false alarm announcements on a sound source.

(Default: NORMAL)

6. Evacuation Announcement Indicator
Lights or flashes when an evacuation announcement is played back or recorded.

7. Evacuation Announcement Button
Press this button to play back or record evacuation announcements.

8. False Alarm Announcement Indicator
Lights or flashes when a false alarm announcement is played back or recorded.

9. False Alarm Announcement Button
Press this button to play back or record false alarm announcements.

10. Input Sensitivity Setting Switch
Sets the input sensitivity of Recording Input (11). Select the sensitivity depending on the type of connected component.
(Default: –20 dBV)

11. Recording Input Terminal
Used for recording voice alarm messages.
(–60 dBV/2.2 kΩ or –20 dBV/10 kΩ selectable, unbalanced, mini-jack)

12. Headphone Terminal
Connect headphones to this terminal to listen to recorded messages for confirmation. Recorded contents are output regardless of the settings of the Mode Selector switch.
(0 dBV, 100 Ω, unbalanced, mini-jack)

13. Headphone Volume Control
Adjusts the volume of headphones.

5.7. FS-7000GM Group Matrix Panel

The FS-7000GM panel is used in conjunction with FS-7000 Series Voice Evacuation Systems to make group broadcasts. The FS-7000GM connects to the FS-7000CP and FS-7000RF and enables group broadcasts by selecting multiple speaker lines simultaneously via the zone selector keys on the FS-7000CP or FS-7000RM. Up to 20 groups and 50 speaker lines can be made available per unit, which can be expanded to 20 groups and 200 speaker lines by connecting 4 units.

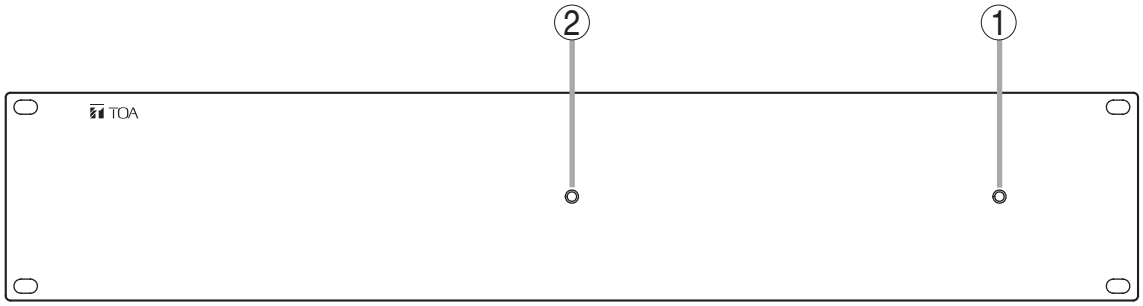
[Front]

1. Power Indicator
Lights when power is supplied and the FS-7000GM is ready for operation.

5.8. FS-7000RF Remote Microphone Interface Panel

The FS-7000RF is used to connect the FS-7000RM to FS-7000 Series Voice Evacuation Systems. Up to 4 FS-7000RM units can be connected using the FS-7000RF. It is possible to control 50 speaker lines as well as all-zone calls. Connection of the FS-7000GM enables broadcasts to be made to up to 20 zone groups.

[Front]



1. Power Indicator
Lights when power is supplied and the FS-7000RF is ready for operation.

2. Fault Indicator
Lights if any failure is detected in communications with the FS-7000RM and flashes if any failure occurs on the FS-7000RF itself. (See page 30.)

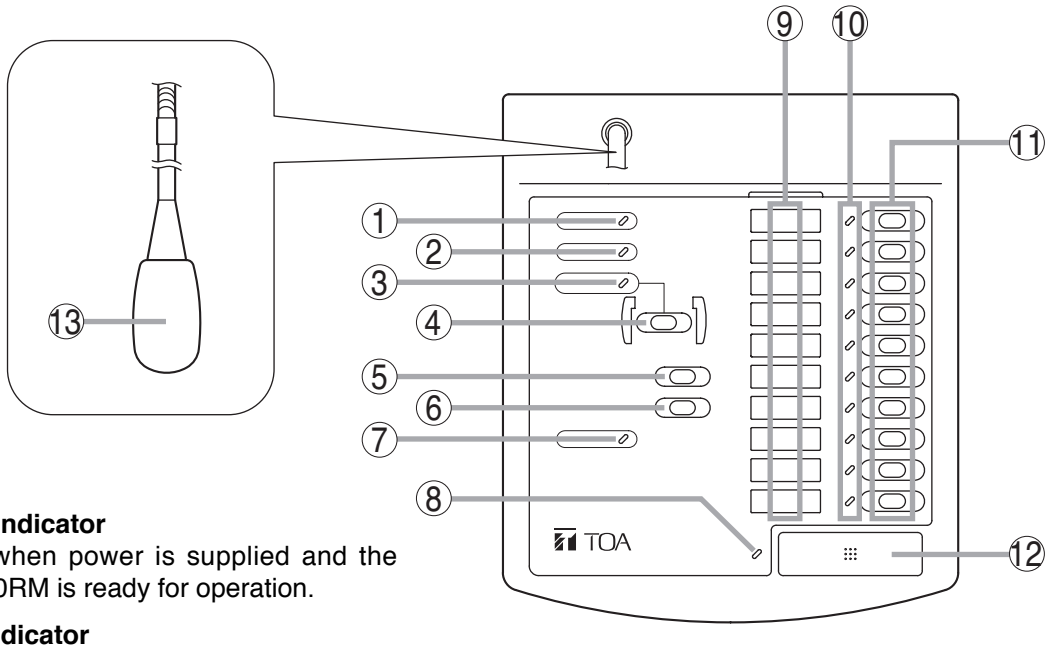
5.9. FS-7000RM Remote Microphone

The FS-7000RM Remote Microphone is used solely for general-purpose public address applications in FS-7000 Series Voice Evacuation Systems. It enables broadcasting to up to 10 individual zones, as well as all-zone calls. One FS-7000RF panel is required in order to connect the FS-7000RM to the system. Up to 4 FS-7000RM units can be connected. Pressing the FS-7000RM's chime key causes the FS-7000CP's built-in 4-tone chime to sound. Connection of 4 FS-7010RMs enables broadcasts to 50 individual zones as well as all-zone calls (expandable by 10 lines per FS-7010RM). Further, up to 20 broadcast zone groups can be created by connecting the FS-7000RF to an FS-7000GM Group Matrix Panel.

Tip

Connection of 6 FS-7010RM Remote Microphone Extension units enables broadcasting to 50 individual zones and 20 zone groups, as well as all-zone calls.

[Top]



1. Power Indicator
Lights when power is supplied and the FS-7000RM is ready for operation.

2. Fault Indicator
Lights when any failure is detected in communications with the FS-7000RF or when any failure occurs on the FS-7000RM itself.
(See page 30.)

3. All-Zone Call Indicator
Remains lit while an all-zone call is broadcast from the FS-7000RM. (Lights only when calls are made from this FS-7000RM.)

4. All-Zone Call Key
Selects all broadcast zones simultaneously.

5. Chime Key
Sounds a 4-tone chime built inside the FS-7000CP.

6. Broadcast Reset Key
Resets broadcast zones selected via the All-Zone Call key (4) or Zone Selector keys (11), terminating broadcasts from the FS-7000RM.

7. Busy Indicator
Lights green when a broadcast is made from this FS-7000RM, and lights orange when a broadcast is made from other equipment.

8. Talk Key Indicator
Lights when a microphone announcement is made using the Talk key (12).

9. Zone Identification Card
Write the names of the broadcast zones on this card.

10. Zone Selection Indicators
Light when the corresponding Zone Selector keys (11) are pressed. (Light only when the FS-7000RM's keys are used.)

11. Zone Selector Keys
Select broadcast zones. Connection of the FS-7000RF to the FS-7000GM permits simultaneous selection of multiple broadcast zones.

12. Talk Key
Microphone announcements can be made only while this key is pressed.

Tip

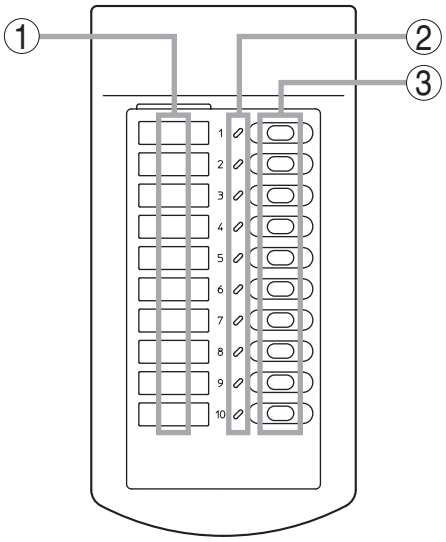
Key operation can be changed to allow microphone announcements to alternate between ON and OFF each time this key is pressed. (Refer to the separate Installation Manual.)

13. Microphone

5.10. FS-7010RM Remote Microphone Extension

The FS-7010RM is an extension unit for the FS-7000RM to be used in FS-7000 Series Voice Evacuation Systems. Ten zones can be expanded per FS-7010RM. Up to 6 FS-7010RM units can be connected to the FS-7000RM.

[Top]



1. Zone Identification Card
Write the names of the broadcast zones on this card.

2. Zone Selection Indicators
Light when the corresponding Zone Selector keys (3) are pressed. (Only when zones are selected from the FS-7010RM.)

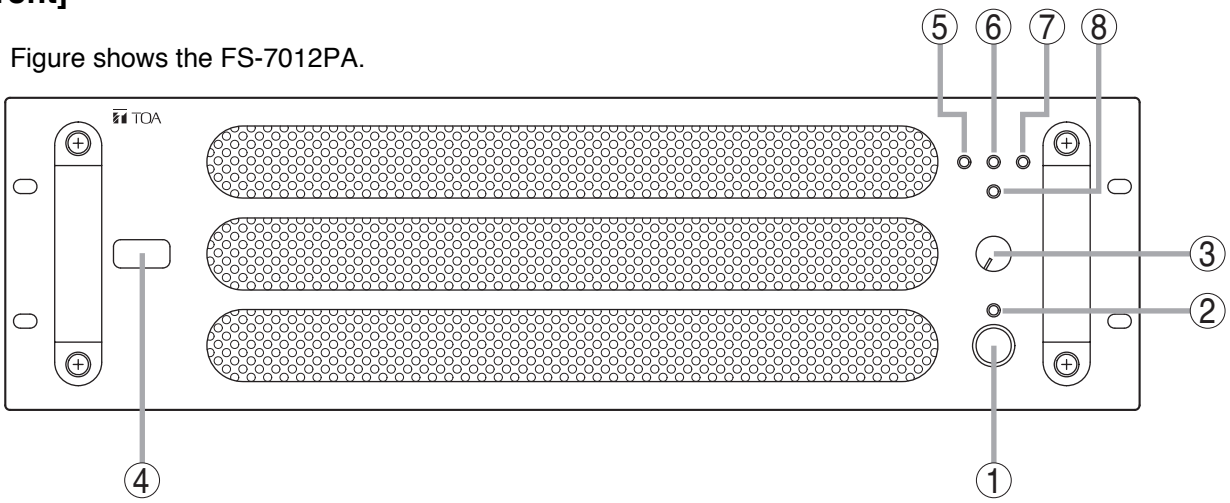
3. Zone Selector Keys
Select broadcast zones.

5.11. FS-7006PA/7012PA Power Amplifiers

These power amplifiers are used in conjunction with FS-7000 Series Voice Evacuation Systems. The FS-7006PA's output is rated at 600 W and the FS-7012PA is rated to deliver 1,200 W. By mounting the YA-7000 module in a power amplifier and connecting a standby amplifier to it, the power amplifier can be automatically switched over to the standby amplifier if the power amplifier fails. When initiating emergency broadcasts, the volume control on the front panel is bypassed by closing the Volume Bypass Control terminals on the rear panel, allowing broadcasts of emergency message at maximum volume.

[Front]

Figure shows the FS-7012PA.



1. Power Switch
Press this switch to turn on the power. To turn off the power, press this switch again.

2. Power Indicator
Lights when power is supplied and the FS-7006PA/7012PA is ready for operation.

3. Volume Control
Adjusts the input signal level. This volume control cannot be used while the Bypass Indicator (8) continuously lights.

4. Fill-In Space
Write uses of the main and standby amplifiers in this space.

5. Fault Indicator
Lights when an output muting function* is operated or when a failure is detected.
If the YA-7000 is used, this indicator lights when the YA-7000 detects a failure and the power amplifier is switched over to a standby amplifier. (See page 30.)

* This function prevents noise from being generated when power is switched on and off.

6. Signal Indicator
Lights when a signal that exceeds a level 24 dB below the rated output is sent to the Speaker Output on the rear panel.

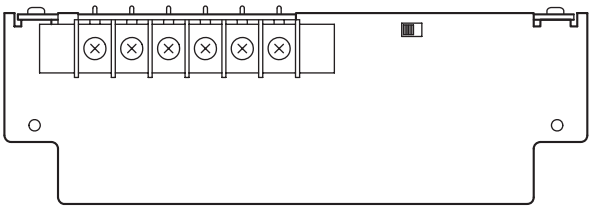
7. Peak Indicator
Lights when a signal that exceeds a level of 3 dB below the rated output is sent to Speaker Output on the rear panel.

8. Bypass Indicator
Lights when the Volume Bypass Control Input on the rear panel is enabled and indicates that the Volume Control (3) has been bypassed and disabled.

5.12. YA-7000 Amplifier Auto Switching Module

The YA-7000 module is designed to be mounted in the power amplifier of FS-7000 Series Voice Evacuation Systems. Connecting a standby amplifier to the YA-7000 module installed in the main amplifier (FS-7006PA or FS-7012PA) permits the main amplifier to be switched over to the standby amplifier if the main amplifier fails.

[Front]



6. FUNCTIONS & OPERATION OF EMERGENCY/GENERAL-PURPOSE BROADCASTS

6.1. Emergency Broadcasts

A system that integrates the FS-7000EV allows emergency broadcasts to be made automatically, through connection to an automatic fire alarm system, or manually via the FS-7000CP unit in the main rack system.
When implementing an emergency broadcast, volume controls on the front panels of the FS-7006PA and FS-7012PA amplifiers are bypassed to allow broadcast of the emergency message at maximum volume.
Systems equipped with an FS-7000AT can supply 24 V DC power to the 4-wire system attenuators in order to bypass them.

Emergency broadcasts have the highest priority.
When an emergency broadcast is activated, the following occurs:

- In the emergency broadcast area: General-purpose broadcasts* are stopped to allow the emergency broadcast to be heard.
- Other areas: If the system has been set to a 1-channel broadcast mode, general-purpose broadcasts are stopped.
  If the system has been set to a 2-channel broadcast mode, priority broadcasts are stopped but BGM broadcasts continue.

When an emergency broadcast ends, the following occurs:

- In the BGM broadcast area:
  The broadcast does not return to its original state if the system has been set to 1-channel broadcast mode.
  The broadcast returns to its original state if the system has been set to 2-channel broadcast mode.

If a priority broadcast was already in progress when an emergency broadcast is activated:

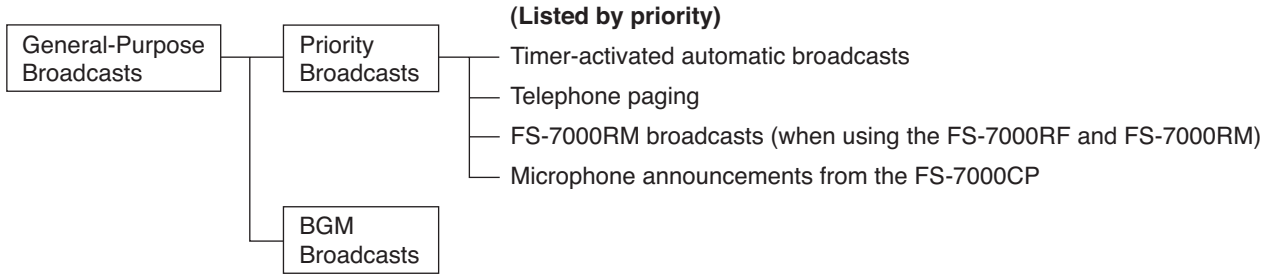
- If the broadcast was from the microphone of the FS-7000CP, then it will not be resumed.
  The broadcast area must be selected again when making a microphone announcement.
- If the broadcast was from the FS-7000RM, then it will return to its original state.
- If the broadcast was a telephone paging or timer-activated automatic broadcast, the broadcast will resume if the paging operation or timer input activation still continues.

*Refer to "Types of General-Purpose Broadcasts" explained in the following section.

6.2. General-Purpose Broadcasts

6.2.1. Types of General-Purpose Broadcasts

General-purpose broadcasts can be classified as follows, depending on the type of equipment, broadcast priority, etc.



[Timer-activated automatic broadcasts]

When the Timer Input on the rear of the FS-7000CP receives an audio signal and a control signal from a music play component, the broadcast is made to all zones during operation of the music play component.

[Telephone paging]

When the Paging Input on the rear of the FS-7000CP receives an audio signal and a control signal from a telephone exchange, a paging call from a telephone set is made to all zones.

[Announcements from the FS-7000RM (with the FS-7000RF and FS-7000RM installed)]

Microphone announcements can be made to specific areas selected using the Zone Selector Keys on the FS-7000RM or FS-7010RM. Also, pressing the Chime Key on the remote microphone before making the announcement causes the FS-7000CP's 4-tone chime to sound.

[Microphone announcements from the FS-7000CP]

Microphone announcements can be made to specific areas selected using the Zone Selector Keys on the FS-7000CP or FS-7010CP. Also, pressing the Chime Button on the FS-7000CP before making the announcement causes the 4-tone chime to sound. Microphone announcements are broadcast after they have been mixed with signals from the sound source equipment connected to the Auxiliary Input on the rear of the FS-7000CP.

[BGM Broadcasts]

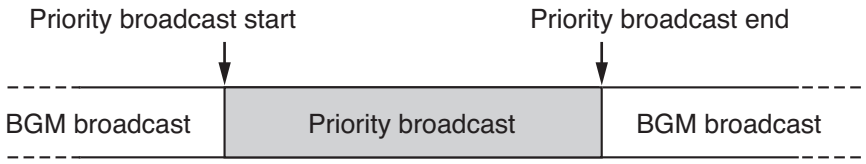
For systems equipped with a 2-channel power amplifier and capable of 2-channel broadcasting, the BGM Zone Selector Keys on the FS-7000JP may be used to select broadcast areas, allowing broadcasts from the music play component connected to the FS-7000CP's BGM input.
For systems equipped with a 1-channel power amplifier and capable of 1-channel broadcasting, the BGM broadcast areas can be selected at the FS-7000CP or FS-7010CP.

6.2.2. BGM Broadcasts & Priority Broadcasts

2-Channel Broadcasting

If a priority broadcast is made to an area in which BGM broadcasting is in progress, the BGM broadcast is interrupted and changed to the priority broadcast. Once the priority broadcast has finished, the original BGM broadcast resumes immediately.

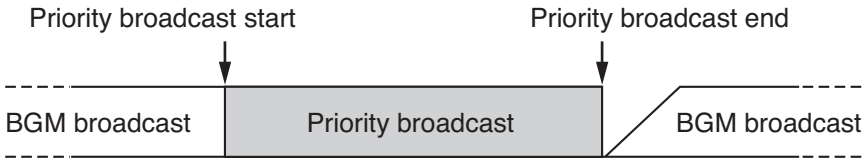
[Broadcasting to areas in which BGM broadcasting is in progress]



1-Channel Broadcasting

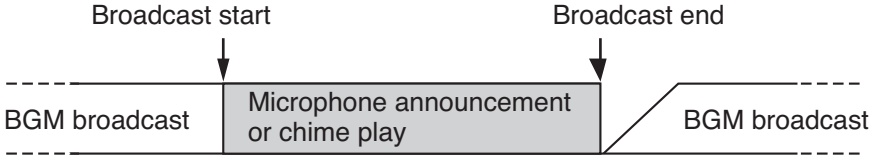
[Broadcasts from sources other than the FS-7000CP]

The BGM broadcast is interrupted and changed to the priority broadcast. Once the priority broadcast has finished, the original BGM broadcast resumes gradually.



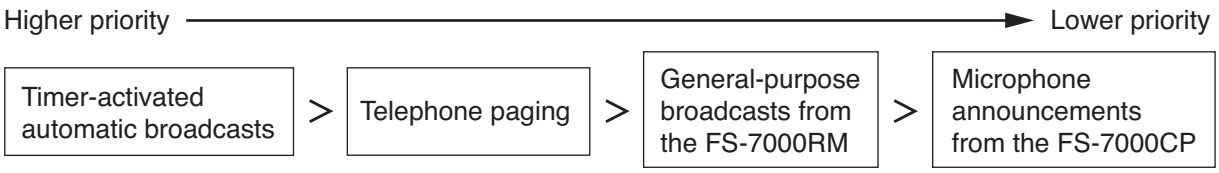
[Broadcasts from the FS-7000CP]

The BGM broadcast is interrupted by microphone announcement or chime play and changed to the priority broadcast. Once the priority broadcast has finished, the original BGM broadcast resumes gradually.



6.2.3. Order of Priority among Priority Broadcasts

Priority broadcasts are not broadcast all at once; rather, they are issued one at a time following a specific order of priority, as follows.



Example: If a timer-activated automatic broadcast is in progress, only that broadcast will be performed, and other broadcasts will not be made.

[Order of priority among the FS-7000RM units]

When multiple FS-7000RM units are connected, the following modes are available for determining broadcast priority among them. Select the desired mode using the Function Switch on the rear of the FS-7000RF.

- Last-in-first-out (LIFO): Priority is given to the FS-7000RM unit that last selected a broadcast area.
- First-in-first-out (FIFO): Priority is given to the FS-7000RM unit that first selected a broadcast area, and broadcasts from other FS-7000RM units are not possible until that broadcast has been finished.
- Individual: Priority is given to the FS-7000RM unit with the lowest address number.
- None: All of the FS-7000RM units that have selected a broadcast area can make broadcasts. In this event, all of the audio signals output from all of the FS-7000RM units will be mixed.

[When a higher-priority broadcast occurs during a priority broadcast]

- In areas with the higher-priority broadcast: The lower-priority broadcast is interrupted to allow the higher-priority broadcast to go through.
- In other areas: If the system has been set to 1-channel broadcasting, the general-purpose broadcast is stopped.
  If the system has been set to 2-channel broadcasting, the priority broadcast already in progress is interrupted, but BGM broadcasts continue.

When the higher-priority broadcast is finished, other broadcasts resume as follows:

- BGM broadcasts: Return to original state.

If other high-priority broadcasts were in progress:

- Announcements from the FS-7000CP microphone resume.
- Announcements from the FS-7000RM resume.
- Telephone paging resumes if the paging is still being operated.

6.2.4. "Normal" Mode and "Urgency" Mode All-Zone Calls

All-zone calls originating from the FS-7000CP or FS-7000RM are available in 2 modes: "Normal" and "Urgency." For the FS-7000CP, set the desired all-zone call mode using the All-Zone Call Mode Selector Switch on its rear panel, and for the FS-7000RM, use the Function Switch on the rear of the FS-7000RF. All all-zone call* broadcasts will be made using whichever mode has been set.

- Normal Mode: Broadcast volume can be controlled by the attenuator.
- Urgency Mode: The attenuator volume control is bypassed, allowing broadcasts in all areas to be made at maximum volume. (This assumes installation of the FS-7000AT.)

*Announcements made using the All-Zone Call Button on the FS-7000CP or the All-Zone Call Key on the FS-7000RM.

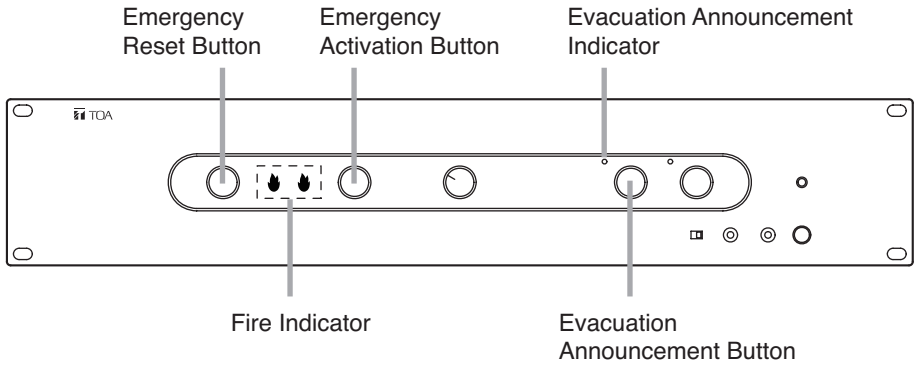
7. MAKING EMERGENCY BROADCASTS

7.1. Initiating Emergency Broadcasts Manually

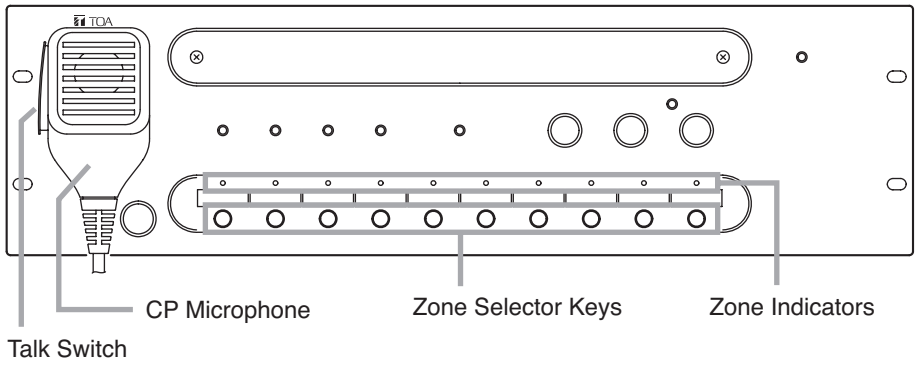
Under manual operation, the broadcast areas are selected and the broadcast is conducted using either a microphone or the pre-recorded voice alarm messages stored in the FS-7000EV.

[Buttons and keys used for operation]

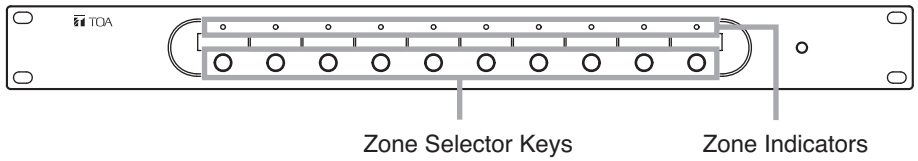
[FS-7000EV]



[FS-7000CP]



[FS-7010CP]



Step 1. Press the Emergency activation button on the FS-7000EV.

The Fire indicator will light.
2-channel broadcast: Broadcasting is stopped in areas where priority broadcasts are underway. BGM broadcasting continues.
1-channel broadcast: Broadcasting is stopped in all areas.

Step 2. Use the Zone selector keys on the FS-7000CP or FS-7010CP to select the broadcast areas.

The appropriate Zone indicators will illuminate.
2-channel broadcast: BGM broadcasting in the selected areas is stopped.

Step 3. Activate emergency evacuation announcements.

Using pre-recorded voice alarm messages stored in the FS-7000EV

Press the Evacuation announcement button.

The Evacuation announcement indicator will illuminate and the evacuation announcement will be sent to all selected areas.
To stop the evacuation announcement, press the Evacuation announcement button again.

Using the microphone

Broadcast using the microphone on the FS-7000CP.

Make the desired announcement while pressing the Talk switch of the microphone.
Announcements made using the microphone will override any pre-recorded voice alarm broadcasts being made via the FS-7000EV. These pre-recorded message broadcasts will resume once the microphone announcement has finished.

Step 4. Once the fire has been extinguished, press the Emergency reset button on the FS-7000EV to terminate emergency broadcasts.

The Fire indicator and Evacuation announcement indicator will extinguish, and original general-purpose broadcasts will resume automatically.

Note
Priority broadcasts from the CP-7000CP and 1-channel BGM broadcasts will not resume automatically.

[Pre-recorded voice alarm messages set at the factory are as follows]

Evacuation announcement:
"There is a fire. Please evacuate as quickly as possible."

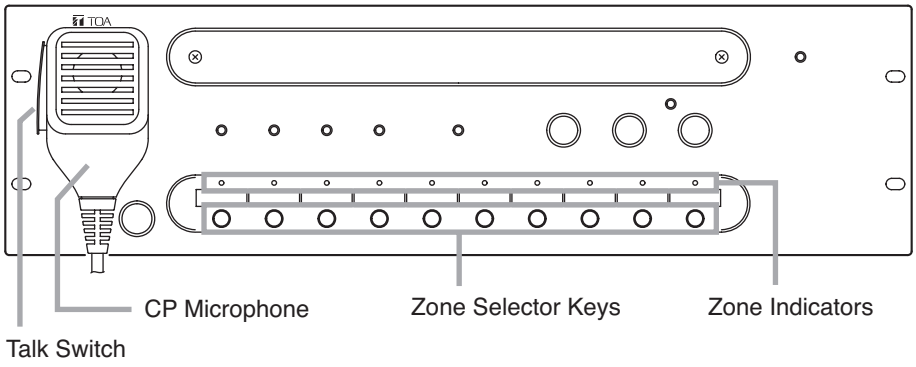
False alarm announcement:
"Attention please. A few minutes ago we announced there may be a fire. However, there is no fire.
Once again, there is no fire."

7.2. Initiating Emergency Broadcasts by Fire Alarm System

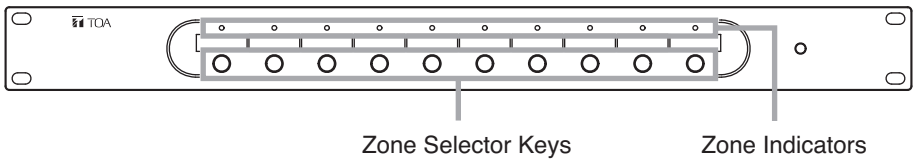
If the broadcast system is connected to an automatic fire alarm system, then whenever a fire is detected, the Fire indicator will illuminate and the FS-7000EV's pre-recorded evacuation announcements will commence automatically. Operation procedures following the start of such emergency announcements are as follows.

[Buttons and keys used for operation]

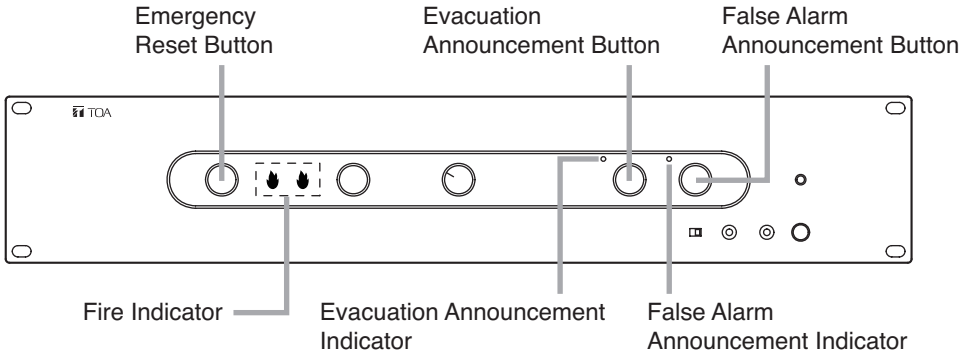
[FS-7000CP]



[FS-7010CP]



[FS-7000EV]



Manually selecting broadcast areas

Using the Zone selector keys on the FS-7000CP and FS-7010CP, select broadcast areas other than those automatically selected by the fire alarm system.

The appropriate Zone indicators will illuminate.

Broadcasting announcements via microphone

Broadcast using the microphone on the FS-7000CP.

Make the desired announcement while pressing the Talk switch of the microphone.
Announcements made using the microphone will override any pre-recorded voice alarm broadcasts being made via the FS-7000EV. These pre-recorded messages will resume once the microphone announcement has finished.

Temporarily stopping evacuation announcements

Press the Evacuation announcement button on the FS-7000EV.

The Evacuation announcement indicator will extinguish and the evacuation announcement will be stopped.
To resume the evacuation announcement, press the Evacuation announcement button again.

Tip

If an additional fire instruction signal is received from the automatic fire alarm system:

- The appropriate broadcast areas are selected and the Zone indicators illuminate.
- If no evacuation announcement is already in progress, then the additional instruction signal activates evacuation announcements automatically.

Terminating emergency announcements once a fire has been extinguished

After the automatic fire alarm system has been reset, press the Emergency reset button on the FS-7000EV.

The Fire indicator and Evacuation announcement indicator will extinguish, and original general-purpose broadcasts will resume automatically.

Tip

Priority broadcasts from the FS-7000CP unit and 1-channel BGM broadcasts will not resume automatically.

Making false alarm announcements

Activate the false alarm announcement by pressing the False alarm announcement button on the FS-7000EV.

The False alarm announcement indicator will illuminate and the false alarm announcement will be sent.

Then, after resetting the automatic fire alarm system, press the Emergency reset button on the FS-7000EV.

The Fire indicator will extinguish, and original general-purpose broadcasts will resume.

Tip

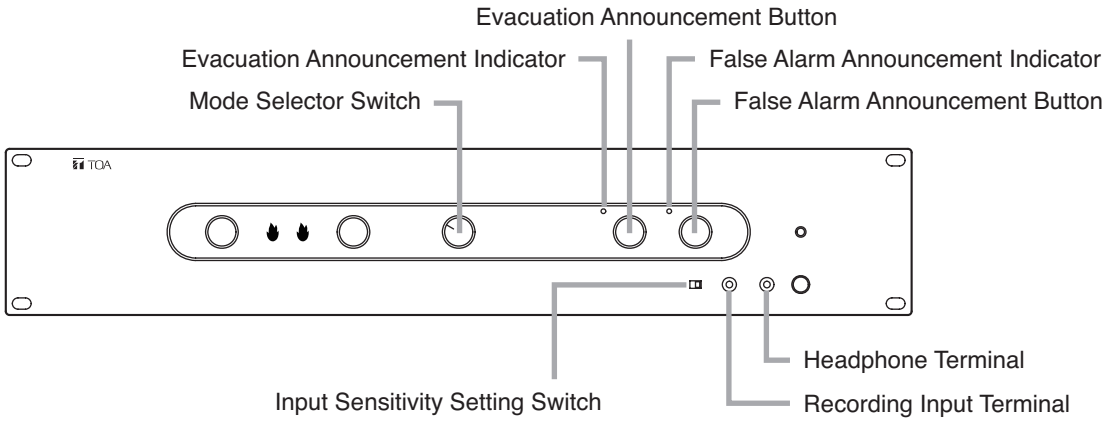
Priority broadcasts from the FS-7000CP unit and 1-channel BGM broadcasts will not resume automatically.

7.3. Recording Voice Alarm Messages

To record customized evacuation and false alarm announcements to the FS-7000EV, connect a microphone or music play device to the Recording input terminal on the front panel of the FS-7000EV. Up to 2 messages with a combined total duration of about 3 minutes can be recorded. Since the recording circuit is equipped with an AGC circuitry, it is not necessary to adjust the recording level.
If the Mode Selector Switch remains in the "RECORD" or "MONITOR" position, the recorded audio message will not be output from the broadcast audio output. Therefore, it is important to reset this switch to "NORMAL" once recording or monitoring has finished.

[Buttons and switches used for operation]

[FS-7000EV]



7.3.1. Recording

The signal that has entered the Recording input terminal is output to the Headphone terminal only, and will not be output through the broadcast audio output.

Note
Operating the recording function with no device connected to the Recording input terminal will record nothing, and the previous recorded message is not erased.

Step 1. Set the Mode selector switch to "RECORD."

Step 2. Set the Input sensitivity setting switch at the desired level. Use –60 dBV (to the left) for microphone input and –20 dBV (to the right) for all other inputs.

Step 3. Connect the microphone or CD player (or other component) to the Recording input terminal.

Step 4. Press and hold the Evacuation announcement (or False alarm announcement) button until the Evacuation announcement (or False alarm announcement) indicator begins to flash. Begin recording as soon as the flashing of this indicator changes to continuous illumination.
Be sure to press the Evacuation announcement button to record an evacuation announcement and the False alarm announcement button to record a false alarm announcement. The new message will overwrite any existing messages.

Note
The indicator will begin to flash after the button is pressed for about 1 second, and after about 2 seconds the flashing will change to continuous illumination.

Step 5. To stop recording, press the same button (Evacuation announcement button or False alarm announcement button) again.
When the remaining available recording time has been reduced to 5 seconds, the Evacuation announcement (or False alarm announcement) indicator will begin flashing and will continue flashing until recording is finished.

Step 6. Once recording is finished, reset the Mode selector switch to "NORMAL."

7.3.2. Checking Recorded Content

Connect headphones to the Headphone terminal.

Step 1. Set the Mode selector switch to "MONITOR."
The Evacuation announcement indicator and False alarm announcement indicator will begin to flash.

Step 2. Press the appropriate Evacuation announcement button or False alarm announcement button to listen to the recorded content.
The flashing of the Evacuation announcement indicator or False alarm announcement indicator will change to continuous illumination and playback of the recording will begin.

Note
Changing the Mode selector switch to another position during recording playback will terminate playback. Also, note that the recording being played back will only be audible through the headphones, and will not be output through the broadcast output terminal.

Step 3. To stop playback of the recording, press the same button (Evacuation announcement button or False alarm announcement button) again.
The Evacuation announcement indicator and False alarm announcement indicator will begin to flash.

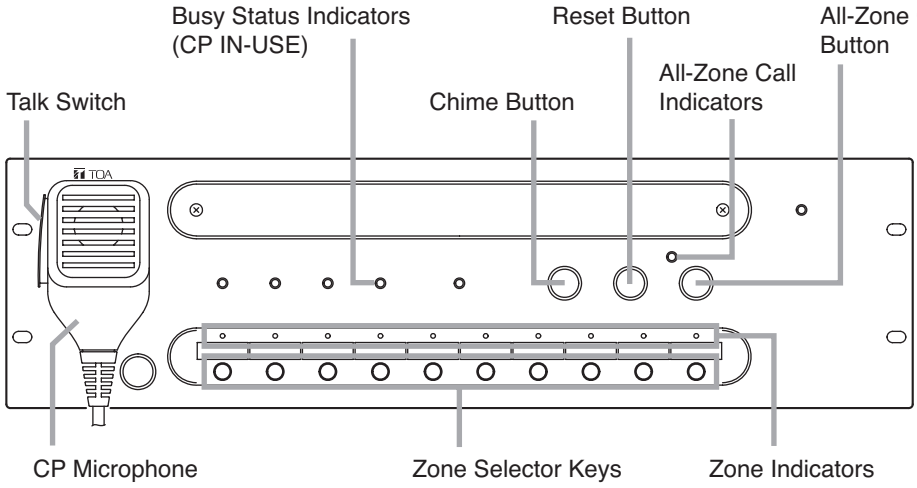
Step 4. Once monitoring is finished, reset the Mode selector switch to "NORMAL."
The Evacuation announcement indicator and False alarm announcement indicator will extinguish.

8. MAKING GENERAL-PURPOSE BROADCASTS

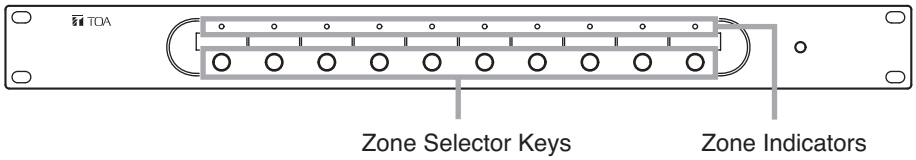
8.1. Making General-Purpose Broadcasts from the FS-7000CP

[Buttons and keys used for operation]

[FS-7000CP]



[FS-7010CP]



Step 1. Press the appropriate Zone selector keys or All-zone call button on the FS-7000CP and FS-7010CP to select the desired broadcast zones.
The appropriate Zone indicators or All-zone call indicator will illuminate.

Step 2. If the CP IN-USE indicator is illuminated, press the Chime button to sound the chime.
If other Busy indicator, or the Fire indicator on the FS-7000EV is illuminated, then a higher-priority broadcast is in progress, and broadcasts cannot be made from the FS-7000CP. Wait until the higher-priority broadcast is finished and try again.

Step 3. Press the Talk switch of the microphone continuously and make the announcement.
The microphone announcement is broadcast only while the Talk switch is depressed.

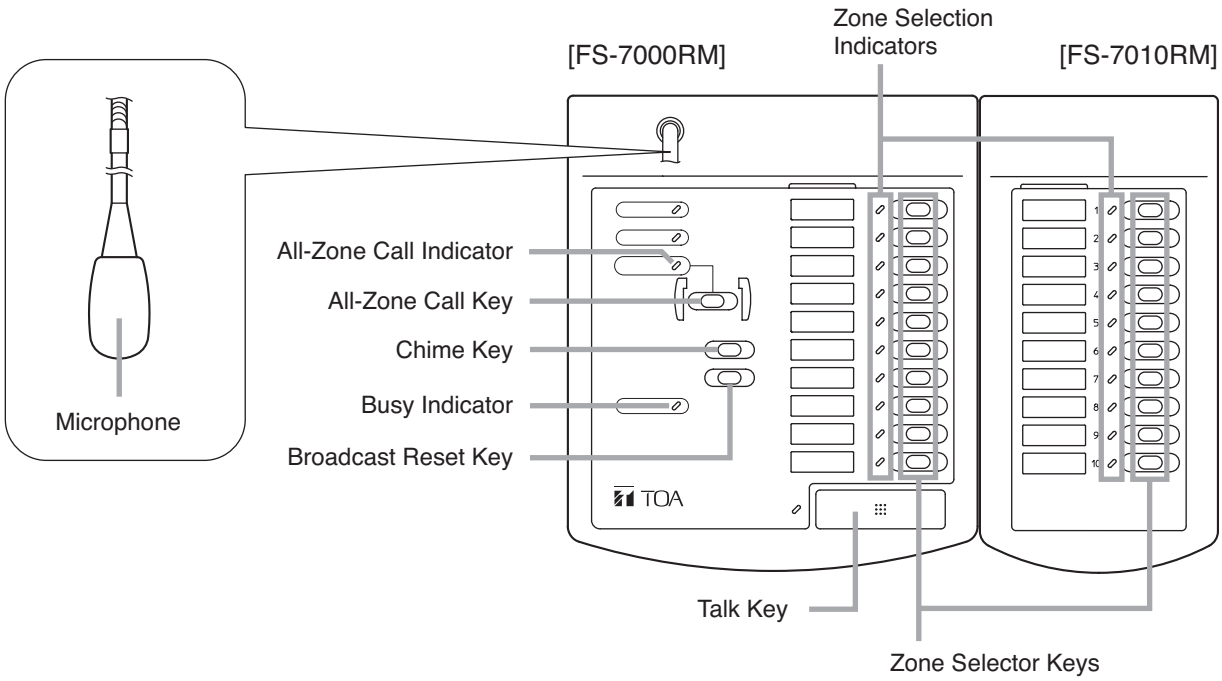
Note
When a higher-priority broadcast is made while a general-purpose broadcast from the FS-7000CP is already in progress (the Busy indicator except CP IN-USE indicator or the FS-7000EV's Fire indicator will illuminate), the general-purpose broadcast will be suspended. In some cases, the original broadcast will not resume even after the higher-priority broadcast is completed. In such cases, perform operation again from the beginning.

Step 4. Press the Reset button to finish broadcasting.

Note
When BGM is being played in 1-channel broadcast mode, if the chime is sounded or microphone announcements are made without designating their specific broadcast areas, these will be heard in the areas where BGM play is in progress. To avoid this, select the desired chime or microphone announcement areas before broadcasting. Since such broadcasts disable BGM play, select the areas that will require continued BGM after the chime or microphone announcement has been completed.

8.2. Making Announcements from the FS-7000RM

[Keys used for operation]



Step 1. Press the appropriate Zone selector keys or All-zone call key on the FS-7000RM or FS-7010RM to select the desired broadcast areas.
The appropriate Zone indicators or All-zone indicator will illuminate.

Step 2. If the Busy indicator is illuminated green, press the Chime button to sound the chime.
If the Busy indicator is illuminated orange, then another higher-priority broadcast is in progress, and broadcasts cannot be made from the FS-7000RM.
Wait until the higher-priority broadcast is finished and try again.

Step 3. Press the Talk key continuously and make the announcement using the microphone. The announcement is broadcast only while the Talk key is depressed.

Note
If a higher-priority broadcast is made while the announcement from the FS-7000RM is underway, then the In-Use indicator will illuminate orange and the announcement will be suspended. In such cases, simply wait until the higher-priority broadcast is finished and try again.

Tip
It is possible to change the Talk key from "PTT" (Press-to-Talk) operation (which allows the user to speak only while the key is continuously pressed) to "Alternate" operation (which alternates the microphone between ON and OFF with each press of the key).
(For changing the key operation, refer to the separate Installation Manual.)

Step 4. Press the Broadcast reset key to finish broadcasting.

8.3. Making BGM Broadcasts

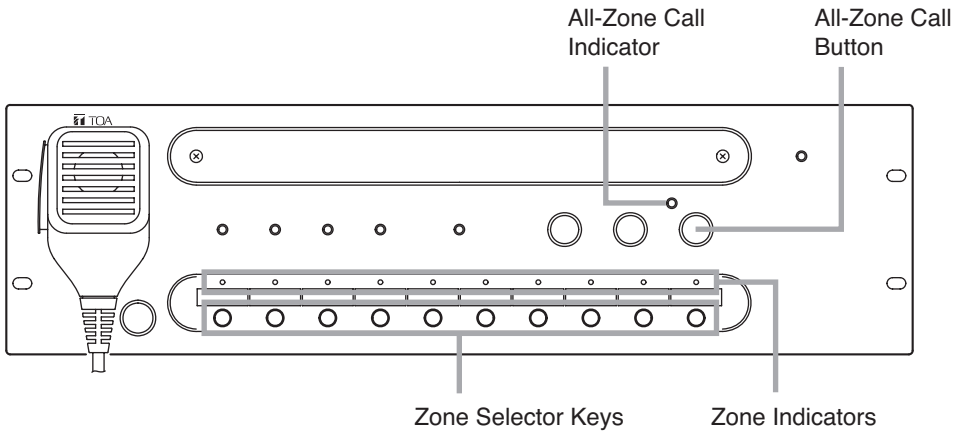
The operating panel used will differ depending on whether the system is set to 1-channel or 2-channel broadcast mode.

Note

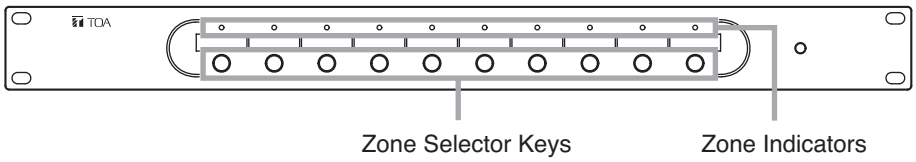
Use the Output mode selector switch on the rear of the FS-7000CP to switch between 1-channel and 2-channel broadcast mode.

[Buttons and keys used for operation]

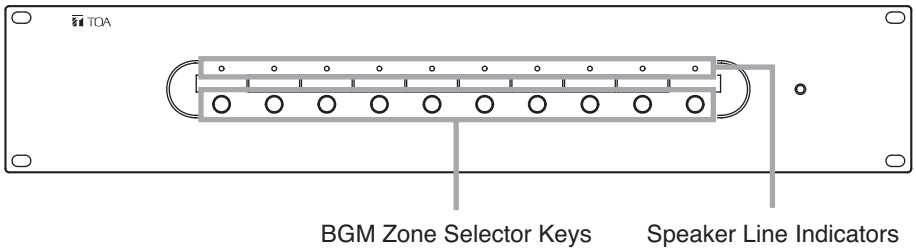
[FS-7000CP]



[FS-7010CP]



[FS-7000JP]



8.3.1. When using 1-channel broadcasting

Press the appropriate Zone selector keys or All-zone call button on the FS-7000CP or FS-7010CP to select the desired broadcast areas, then commence music play from the BGM device.

The appropriate Zone indicators or All-zone call indicator will illuminate.

8.3.2. When using 2-channel broadcasting

Press the appropriate BGM Zone selector keys on the FS-7000JP to select the desired broadcast areas, then commence music play from the BGM device.

The appropriate Zone indicators will illuminate.

9. FAILURE INDICATION

The FS-7000CP, FS-7000JP, FS-7000RF, FS-7000RM, FS-7006PA, and FS-7012PA are equipped with failure indicators that show the status of any problems that may occur. When such an indicator lights or flashes, it means that a problem may have occurred in the equipment or in the wiring.
If the power indicator is not illuminated, the equipment could be malfunctioning. In such cases, check to see if power is being supplied correctly, or if a fuse has blown. A blown fuse often means that the problem may have occurred within the wiring as well as in the equipment itself.
In such cases, replace the fuse(s) and check the correctness of the wiring before turning the power on again.

If an indicator lights continuously or flashes, the following possible causes may be considered:

Symptom	Possible Cause	Check/Remedy
FS-7000CP's Speaker Line Short indicator lights. FS-7000JP's Speaker Line Indicator lights red.	One or more of the speaker lines have shorted, causing the associated line protection fuse of FS-7000JP to blow.	The speaker line corresponding to the FS-7000JP's Speaker Line indicator that continuously lights red may be shorted. Locate and fix the speaker line short, replace the line protection fuse, then press the Reset switch mounted on the rear panel of the FS-7000JP.
FS-7000RF's Fault indicator lights red. FS-7000RF's Fault indicator flashes red.	Communications are not being performed correctly with the FS-7000RM units of the number designated using the setting switch, or equipment failures may have occurred.	• Confirm that the number that has been set using the setting switch agree with the actual number of the connected FS-7000RM units. • Confirm that the FS-7000RM's address is set correctly. • Confirm that there is no fault with the wiring leading to the FS-7000RM. If all of the above are found to be in correct working order, then it is likely that the FS-7000RM itself is malfunctioning. It is likely that the FS-7000RF itself is malfunctioning.
FS-7000RM's Fault indicator lights.	Communication with the FS-7000RF is not being performed correctly, or equipment failures may have occurred.	• Confirm that the number of units that has been set using the FS-7000RF's setting switch agrees with the actual number of the FS-7000RM units connected. • Confirm that the unit has the correct address settings. • Confirm that there is no fault with the wiring leading to the FS-7000RF. If all of the above are found to be in correct working order, then it is likely that the FS-7000RF itself is malfunctioning or equipment failures may have occurred.
FS-7006PA's or FS-7012PA's Fault indicator lights. – Continued on next page –	Output is not being provided correctly because of a short in the output wiring.	Remove the output wiring and turn the power on again. If the fault indicator light goes out, then the problem may be with the wiring. Check the wiring to determine where the problem may be. If the indicator light does not go out, or if it goes out but then lights again within a short period of time, consider whether the following may be the problem:

Symptom	Possible Cause	Check/Remedy
FS-7006PA's or FS-7012PA 's Fault indicator lights.	Equipment failure or excessive high heat build-up inside the unit.	Check the following points if the indicator automatically goes out within 30 minutes after it has lit. • Check installation conditions for appropriate ventilation. • Check the connected load capacity for possible overload. • Check to see if input and output cables are installed in close proximity to each other. If all of the above are found to be in correct working order, then it is likely that the equipment itself is malfunctioning in some way. Equipment failures can also be considered if the indicator lights again within a short period of time even if it has gone out once. Request maintenance and repair action.
	YA-7000's Operation Mode Selector switch was set to "Test" during its installation.	Set the mode switch to "Normal."

10. TROUBLESHOOTING

If the power will not go on, no sound is output, or other problem occurs, check the following list of troubleshooting symptoms and solutions. If the symptoms still persist, then refer the problem to the store from where the component was purchased.

Symptom	Items to Check	Potential Solution
No sound.	[FS-7000CP/7006PA/7012PA] Is the volume control set to "0"?	Turn the volume knob clockwise and set the volume to the appropriate level.
	[FS-7000CP/7010CP/7000JP/ 7000RM/7010RM] Is the broadcast area selected?	Press the Zone selector key to select a broadcast area.
	[FS-7000CP] Is a higher-priority broadcast already in progress?	Wait until the higher-priority broadcast has finished and try again.
Cannot record a voice message.	[FS-7000EV] Is a microphone or other sound source correctly connected to the Recording input terminal?	Try removing and reinserting the plug into the recording input jack.
The recorded sound volume is too low or is distorted.	[FS-7000EV] Is the Input sensitivity setting switch set to the correct level at the time of recording?	Set the Input sensitivity setting switch to –60 dB (to the left) when using a microphone and –20 dBV (to the right) when connecting other components.
Cannot bypass the attenuator to broadcast at maximum volume.	[FS-7000AT] Is the FS-7000AT's attenuator line indicator illuminated when attempting to make emergency or general urgency broadcasts?	It is likely that 24 V DC power is not being properly supplied to the attenuator. Contact your TOA dealer to have the unit inspected.

11. SPECIFICATIONS

11.1. FS-7000CP Control Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	200 mA
Input	EV: 0 dB*, 600 Ω, unbalanced, removable terminal block (2 pins) Timer: 0 dB*, 600 Ω, unbalanced, removable terminal block (4 pins) Paging: –60/–20 dB*, 600 Ω, balanced, removable terminal block (5 pins) RF (Remote microphone): 0 dB*, 600 Ω, balanced, removable terminal block (3 pins) Preinstalled microphone (accessory): –55 dB*, 600 Ω, unbalanced, circular connector (4 pins) AUX: –20 dB*, 600 Ω, unbalanced, removable terminal block (2 pins) BGM 1: –60/0 dB*, 600 Ω, balanced, removable terminal block (3 pins) BGM 2 – 4: –20 dB*, 10 kΩ, unbalanced, RCA jack
Output	Priority output: 0 dB*, 600 Ω, balanced, removable terminal block (3 pins) (Outputs signals other than BGM 1 – 4 input signals when output is set to 2-channel broadcast mode.) BGM output: 0 dB*, 600 Ω, balanced, removable terminal block (3 pins) (Outputs BGM 1 – 4 signals.)
Frequency Response	50 – 15,000 Hz, within ±3 dB (1 kHz)
Tone Control	±10 dB at 100 Hz and 10 kHz
S/N Ratio	Over 60 dB
Distortion	Under 1%
Priority Function	Priority output: Preinstalled microphone > EV (emergency broadcast mode) Timer > Paging > Remote microphone > Preinstalled microphone, AUX > BGM 1 ≥ BGM 2 – 4 (general-purpose broadcast mode) BGM output: BGM 1 ≥ BGM 2 – 4 (by muting function setting)
Electronic Tone	Ascending 4-tone chime
External Control Input	Timer: No-voltage make contact input, open voltage: 26 V DC, short-circuit current: under 2 mA, removable terminal block (4 pins) Paging: No-voltage make contact input, open voltage: 26 V DC, short-circuit current: under 2 mA, removable terminal block (5 pins) Automatic fire alarm system (10 zones): No-voltage make contact input, open voltage: 26 V DC, short-circuit current: under 5 mA, removable terminal block (12 pins)
Output Control	10 individual zones + all-zone call or 10 group zones + all-zone call (when optional FS-7000GM is connected) (individual zones expandable to up to 200 zones using FS-7010CP)
Operating Section	Zone selection keys, All-zone call button (general-purpose/general urgency all-zone call selectable), Broadcast reset button and Chime button
Display Section	Power indicator, All-zone call indicator, Zone indicators, Busy indicator (timer, paging, remote microphone and main system), Speaker line short-circuit indicator
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 132.6 (h) x 376.9 (d) mm
Weight	5.2 kg

* 0 dB = 1 V

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Microphone 1
Removable terminal plug (2 pins) 2
Removable terminal plug (3 pins) 4
Removable terminal plug (4 pins) 1
Removable terminal plug (5 pins) 1
Removable terminal plug (12 pins) 1

11.2. FS-7010CP Expansion Control Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	150 mA
External Control Input	Automatic fire alarm system (10 zones): No-voltage make contact input, open voltage: 26 V DC, short-circuit current: Under 5 mA, removable terminal block (12 pins)
Output Control	10 individual zones or 10 group zones (when optional FS-7000GM is connected)
Operating Section	Zone selection keys
Display Section	Power indicator, Zone indicators
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 44 (h) x 337 (d) mm
Weight	3 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Connection cable (14 pins, 60 cm) 1
Connection cable (10 pins, 2.5 m) 1
Removable terminal plug (12 pins) 1

11.3. FS-7000JP Junction Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	450 mA
Power Amplifier Input	Priority input: 100 V line: Max. 1200 W, M4 screw terminal, distance between barriers: 9 mm BGM input: 100 V line: Max. 1200 W, M4 screw terminal, distance between barriers: 9 mm
Speaker Output	10 lines each for H and C, M3 screw terminal, distance between barriers: 6.4 mm (100 V line, Max. 280 W for FS-7006PA, Max. 500 W per line for FS-7012PA)
Line Short-Circuit Protection	ø5 mm tubed fuse 0.5 A x 10 fuses preinstalled (Fuse capacity must be changed depending on the load capacity.)
External Control Onput	General urgency/Emergency mode output terminal: Open collector output, rated voltage: 30 V DC, current capacity: 0.1 A, removable terminal block (2 pins) Power remote output terminal: Relay contact output, rated voltage: 30 V DC, current capacity: 1 A, removable terminal block (2 pins)
Operating Section	BGM zone selection keys
Display Section	Power indicator, Speaker line indicators (Green: BGM in progress (2-channel broadcast mode)/ Orange: BGM in progress (1-channel broadcast mode), priority broadcast, and emergency broadcast/ Red: short-circuit)
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 88.4 (h) x 340.7 (d) mm
Weight	4.2 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Fuse (0.5 A) 2
Connection cable (10 pins, 2.5 m) 1
Connection cable (4 pins, 2.5 m) 1
Removable terminal plug (2 pins) 2

11.4. FS-7000PS DC Power Supply Panel

Power Source	230 V AC, 50 Hz 24 V DC (19.5 – 27 V), M3 screw terminal, distance between barriers: 6.4 mm
Power Consumption	195 W (275 VA) at rated power output (AC operation)
Input	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Output	AC operation: 24 V DC ±0.5 V, 5A (total) DC operation: Voltage lowering DC input voltage approx. by 1 V M3 screw terminal, distance between barriers: 6.4 mm
External Control Input/Output	Emergency power connection Control: Rated voltage: 30 V DC, current capcity: 5 A, M3 screw terminal, distance between barriers: 6.4 mm Start: Rated voltage: 24 V DC, current capcity: 5 A, M3 screw terminal, distance between barriers: 6.4 mm Emergency power control Control: Rated voltage: 24 V DC, current capcity: 5 A, M3 screw terminal, distance between barriers: 6.4 mm Start: No-voltage make contact input, open voltage: 24 V DC, short-circuit current: under 2 mA, M3 screw terminal, distance between barriers: 6.4 mm
Operating Section	Power switch
Display Section	AC power indicator, DC power indicator
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 88.4 (h) x 338.2 (d) mm
Weight	8.9 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Power cord (1.8 m) 1
Fuse (6.3 A) 1
Fuse (8 A) 1

11.5. FS-7000AT Attenuator Control Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	200 mA
Attenuator DC Power Input	Rated voltage: 24 V DC (24 – 35 V), current capacity: 5 A, M3 screw terminal, distance between barriers: 6.4 mm
Attenuator Control Output	10 lines, rated voltage: 24 V DC, current capacity: 0.75 A (per line)/5 A (total of 10 lines),with output short-circuit protection function, M3 screw terminal, distance between barriers: 6.4 mm
Display Section	Power indicator, Attenuator line indicators
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 44 (h) x 336 (d) mm
Weight	3 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessory**

Connection cable (12 pins, 60 cm) 1

11.6. FS-7000EV Voice Evacuation Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	130 mA
Emergency Announcement	Evacuation announcement (repeated continuously) and false alarm announcement (repeated twice)
Emergency Warning Language	English (Default)
Emergency Warning Tone	44.1 kHz sampling frequency, 16-bit PCM
Emergency Recording Time	Up to 3 minutes for both evacuation and false alarm announcements together
Recording System	USB data transfer or analog recording
Frequency Response	20 – 20,000 Hz ±3 dB (1 kHz)
Distortion	Under 1% (1 kHz, rated output)
Recording Input	Mic: –60 dB*, 2.2 kΩ/Line: –20 dB*, 10 kΩ (Mic/Line switchable), unbalanced, mini jack
Output	EV audio output: 0 dB*, 600Ω, unbalanced, removable terminal block (2 pins) Headphone output: 0 dB*, 100Ω, unbalanced, mini jack
External Control Input/Output	Emergency ON output: Relay contact output, rated voltage: 30 V DC, current capacity: 1 A, removable terminal block (2 pins) Emergency control contact output: Relay contact output, rated voltage: 30 V DC, current capacity: 1 A, removable terminal block (3 pins) Automatic fire alarm system confirmation signal input: No-voltage make contact input, open voltage: 24 V DC, short-circuit current: 6 mA, removable terminal block (2 pins) Emergency power control Control: Rated voltage: 24 V DC, current capacity: 100 mA, M3 screw terminal, distance between barriers: 6.4 mm Start: Open collector output, rated voltage: 30 V DC, current capacity: 100 mA, M3 screw terminal, distance between barriers: 6.4 mm
Operating Section	Emergency activation button, Emergency reset button, Evacuation announcement button, False alarm announcement button, and Mode selection switch
Display Section	Power indicator, Fire indicator, Evacuation announcement indicator, False alarm announcement indicator, and USB communication indicator (rear panel)
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 88.4 (h) x 341.7 (d) mm
Weight	4 kg

* 0 dB = 1 V

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Connection cable (5 pins, 60 cm) 1
Removable terminal plug (2 pins) 3
Removable terminal plug (3 pins) 1

11.7. FS-7000GM Group Matrix Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	110 mA
Group Input	Max. 20 groups
No. of Speaker Control Lines	Max. 50 lines
Display Section	Power indicator
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 44 (h) x 334.7 (d) mm
Weight	3 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Circuit board 1
Posts with base (EH10P) 7
Diode 200
Machine screw M3 x 4 8
EH-SMP connector 5
Connection cable (10 pins, 2.5 m) 7

11.8. FS-7000RF Remote Microphone Interface Panel

Power Source	24 V DC, M3 screw terminal, distance between barriers: 6.4 mm
Current Consumption	60 mA
No. of Speaker Control Lines	Max. 50 lines
Priority Control	Last-in-1st-out priority/1st-in-1st-out priority/individual priority/no priority (selectable)
Group Broadcast	Broadcast possible to up to 20 groups by connecting optional FS-7000GM.
No. of Connectable FS-7000RM Units	Max.4, M3.5 screw terminal, distance between barriers: 7.2 mm
Cable Distance	Total 800 m max.
Display Section	Power indicator, Fault indicator
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Aluminum, black, alumite
Dimensions	482 (w) x 88.4 (h) x 334.7 (d) mm
Weight	4.2 kg

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Connection cable (6 pins, 2.5 m) 1
Connection cable (10 pins, 2.5 m) 1
Removable terminal plug (3 pins) 1

11.9. FS-7000RM Remote Microphone

Power Source	24 V DC (operating range: 20 – 30 V DC) (supplied from RJ45 connector or power input jack), Usable power input plug: 5.5 mm outer diameter, 2.1 mm inner diameter,and 9.5 mm long.
Current Consumption	90 mA
Output	0 dB*, 600Ω, balanced, RJ45 connector
External Microphone Input	–40 dB*, 2.2 kΩ, unbalanced, mini jack, phantom powering
Distortion	Under 1%
Frequency Response	100 – 20,000 Hz
S/N Ratio	Over 60 dB
Output Control	10 individual zones + all-zone call or 10 group zones + all-zone call (when optional FS-7000GM is connected) (individual zones expandable to up to 50 zones using optional FS-7010RM)
Operating Section	All-zone selection key, Chime key, Broadcast reset key, Zone selection keys, Talk key
Display Section	Power indicator, Fault indicator, Busy indicator, All-zone call indicator, Zone indicators
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	ABS resin, blueish gray
Dimensions	190 (w) x 76.5 (h) x 215 (d) mm (gooseneck microphone excluded)
Weight	900 g

* 0 dB = 1 V

Note: The design and specifications are subject to change without notice for improvement.

• **Accessory**

Connection cable (3 m) 1

11.10. FS-7010RM Remote Microphone Extension

Power Source	Supplied from the FS-7000RM
Current Consumption	15 mA (increment in FS-7000RM's current consumption)
Operating Section	Zone selection keys
Display Section	Zone indicators
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	ABS resin, blueish gray
Dimensions	110 (w) x 76.5 (h) x 215 (d) mm
Weight	350 g

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Connection cable (8 pins, 8 cm) 1
Linkage bracket A 2
Linkage bracket B 1
Tapping screw 3 x 8 12

11.11. FS-7006PA/7012PA Power Amplifiers

Model No.	FS-7006PA	FS-7012PA
Power Source	230 V AC, 50 Hz	
Power Consumption	1,090 W (1,540 VA) (at rated output), 390 W (600 VA) (IEC 65), 58 W (110 VA) (at no signal), 13 W (14 VA) (standby)	2,130 W (2,670 VA) (at rated output), 750 W (950 VA) (IEC 65), 58 W (110 VA) (at no signal), 13 W (14 VA) (standby)
Input	0 dB*, 10 kΩ, transformer-balanced, removable terminal block (3 pins)	
Rated Output	600 W	1,200 W
Load Impedance	100 V line, 16.7 Ω, M4 screw terminal, distance between barriers: 9 mm	100 V line, 8.3 Ω, M4 screw terminal, distance between barriers: 9 mm
Frequency Response	80 – 15,000 Hz, within ±3 dB (1 kHz)	
Distortion	Under 0.1% (at 1 kHz rated output)	
S/N Rated	Over 90 dB, 20 – 20,000 Hz band pass	
Control Input	Volume control bypass control input: no-voltage make contact input, open voltage: Under 24 V DC, short-circuit current: Under 10 mA, removable terminal block (2 pins)	
Indicator	Power (green), Signal (green), Peak (red), Fault (red), Bypass (orange)	
Cooling	Forced air cooling (Under 50°C: Stop, 50 – 75°C: Low to high speed (variable), Over 75°C: High speed)	
Operating Temperature	0°C to +40°C	
Operating Humidity	Under 90% RH (no condensation)	
Finish	Panel: Aluminum, black, alumite	
Dimensions	482 (w) x 132.6 (h) x 532.7 (d) mm	
Weight	24.8 kg	35.4 kg

* 0 dB = 1 V

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Terminal cover 1
Machine screw M4 x 8 2
Removable terminal plug (2 pins) 2
Removable terminal plug (3 pins) 2

11.12. YA-7000 Amplifier Auto Switching Module

Power Source	24 V DC (supplied from the power amplifier)
Current Consumption	70 mA
Input	Main amplifier input: Connects to the main amplifier's output (100 V line), M4 screw terminal, distance between barriers: 9 mm Standby amplifier input: Connects to the standby amplifier's output (100 V line), M4 screw terminal, distance between barriers: 9 mm
Output	Connects to the speaker line (100 V line), M4 screw terminal, distance between barriers: 9 mm
Detected Fault Indication	Power amplifier's fault indicator lights.
Operating Temperature	0°C to +40°C
Operating Humidity	Under 90% RH (no condensation)
Finish	Panel: Surface-treated steel plate, black, paint
Dimensions	178 (w) x 61.2 (h) x 73 (d) mm
Weight	240 g

Note: The design and specifications are subject to change without notice for improvement.

• **Accessories**

Terminal cover 1
Machine screw M3 x 6 2
Machine screw M4 x 8 2