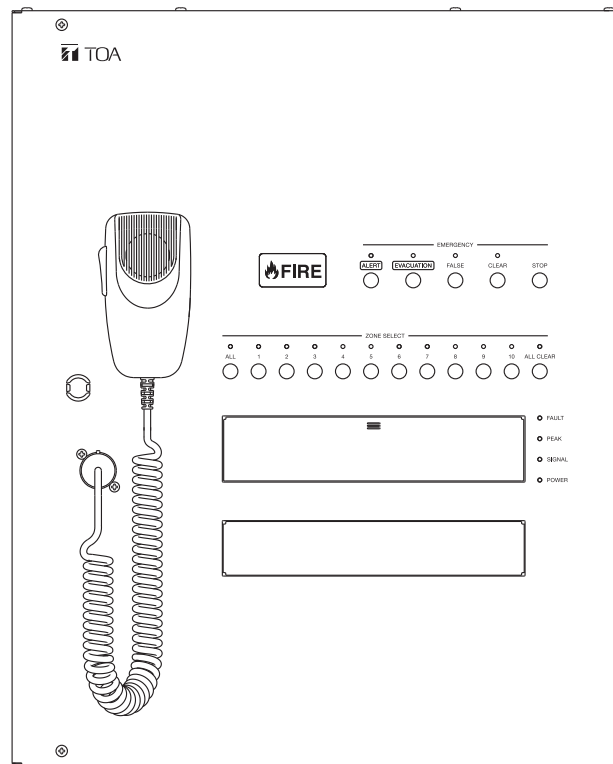




INSTRUCTION MANUAL

WALL MOUNT VOICE EVACUATION

FV-2148W-AS



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

TOA Corporation

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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.
- This equipment is not suitable for use in locations where children are likely to be present.
- An equipment installer and the person in charge of maintenance are required to fully understand the functions and structure of this unit, then be aware of electrical and mechanical risks before work.
- Before starting work, he or she should take possible measures to prevent occurrence of such risks.
- Be sure to contact your nearest TOA dealer if you need to confirm unclear points about risk sources of this unit.

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.

When Installing the Unit

- 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.
- Since the unit is designed for indoor use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of 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.
- Avoid installing or mounting the unit in unstable locations. 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. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Tighten each nut/bolt securely. Ensure that the main panel has no loose joint after installation to prevent accident that could result in personal injury.

When the Unit is in Use

- 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 it is malfunctioning (no tone sounds)
- 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.
- When replacing the fuse, be sure to use the supplied one. Using any other fuse than supplied may cause fire or electric shock.
- Be sure to switch off the unit when replacing the fuse. Inserting or removing the fuse with the unit's power on may cause personal injury.



CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

When Installing the Unit

- 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.
- 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.
- Note correct polarity (positive and negative orientation) when connecting the power supply cord. Reversed polarity connections will cause damage to the unit.
- When connecting multiple appliances to a single power socket through a multi-outlet power strip, a total current consumption of the appliances must not exceed the allowable current capacity of the power socket. Failure to observe this instruction may result in a fire or electric shock.

When the Unit is in Use

- Do not operate the unit for an extended period of time with the sound distorting. Doing so may cause the connected speakers to heat, resulting in a fire.
- 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. GENERAL DESCRIPTION

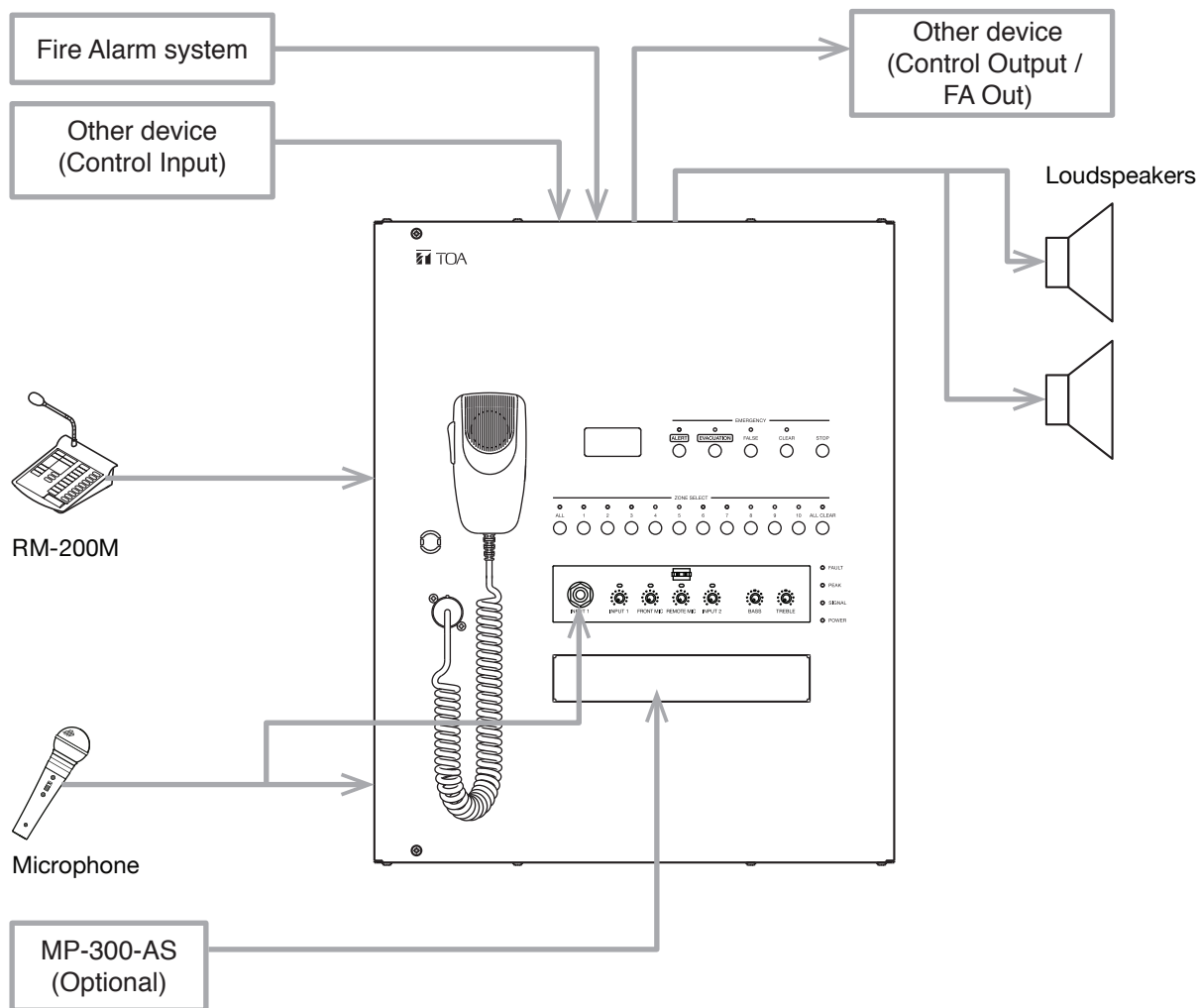
TOA FV-2148W-AS is a compact and lightweight Voice Evacuation wall mount system. It is designed for both general and emergency purpose broadcasts. The wall mount system is comprised of the 4 pre-recorded Voice Evacuation messages, 480W digital power amplifier modules, speaker zone selector, and can connect up to 4 remote microphones. The FV-2148W-AS is able to link with fire alarm panel. Emergency messages is automatic broadcast when fire alarm is activated. Optional MP-300 module is available for playback of back ground music to the speaker.

3. SYSTEM FEATURES

- FV-2148W-AS is a voice evacuation system with compact design.
- FV-2148W-AS is constructed up to 10 zones as system.
- Up to 4 remote microphones can be connected.
- Supported 480 W Digital Amplifier module.

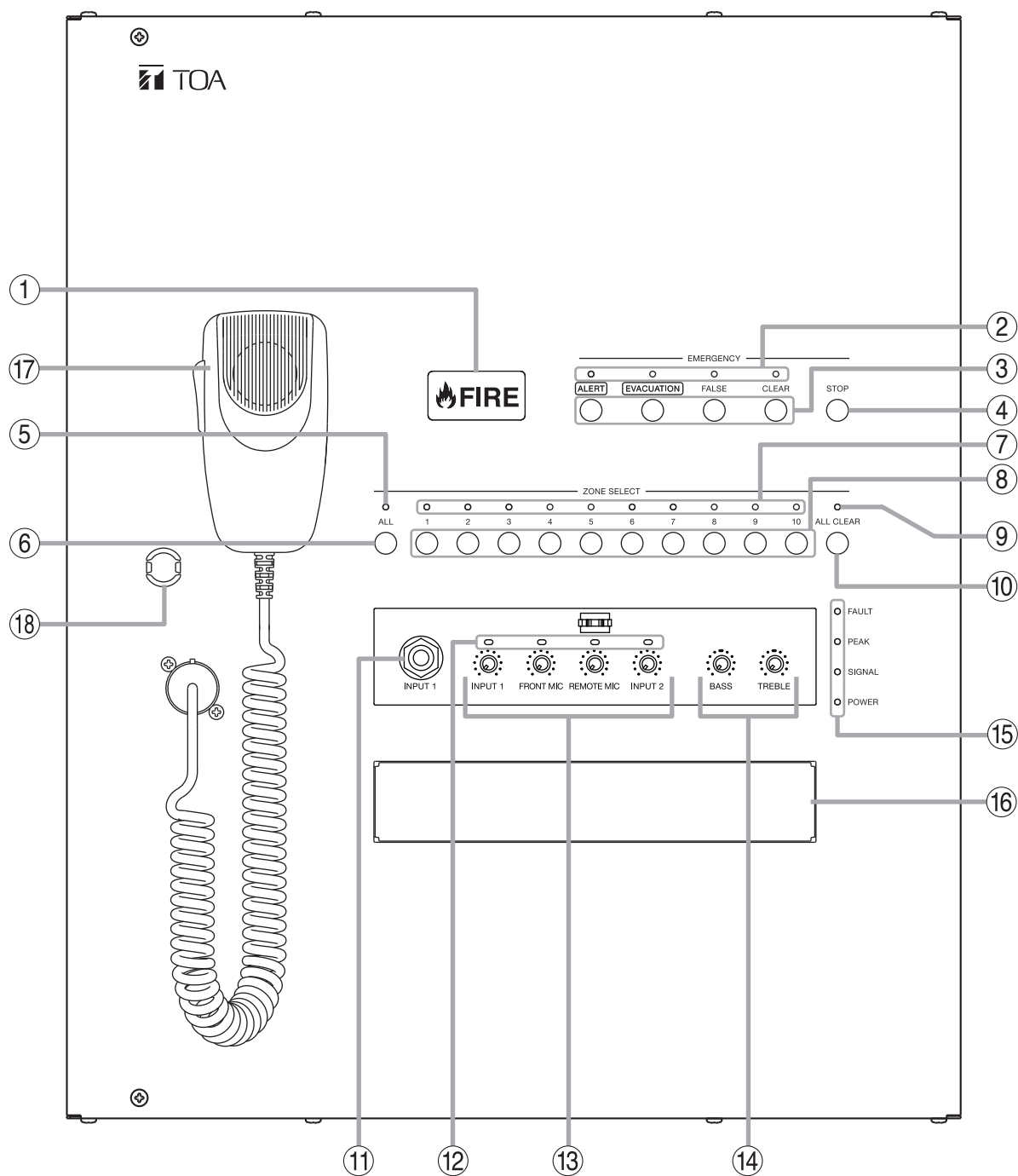
4. SYSTEM EXAMPLE

Figure below is basic system example of FV-2148W-AS

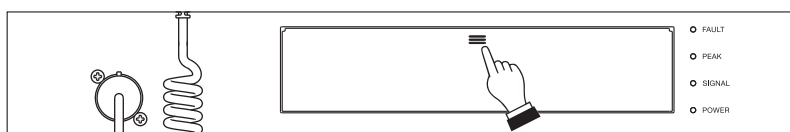


5. NOMENCLATURE AND FUNCTION

[Front]



⑪ ~ ⑭ is inside the front cover



How to open the front cover.

When opening the front cover, press the center of the front cover.

* The cover opens forward.

* Close the cover after use.

1. Fire Indicator

Indicates that the system is in emergency mode. Indicator light red when FA input active, or emergency message during broadcast.

2. Emergency Message Indicators

There are 4 emergency messages for ALERT, EVACUATION, FALSE and CLEAR. When emergency message played, indicator will light green and will turn off when stopped.

3. Emergency Message Buttons

There are 4 emergency messages for ALERT, EVACUATION, FALSE and CLEAR. When button pressed, specific emergency message will be played.

4. Stop Message Buttons

Emergency message will be stopped when pressed STOP button.

Note

If user pressed STOP button when FA input still active, then emergency message will be played continuously. Stop message only can do when FA input is not active.

5. All Call Indicator

Indicates that all of zone are active. All Call and all of zone indicator will light green.

6. All Call Button

Press All Call button to make all zones active.

7. Zone Indicator

Indicates that specific zones are active. Indicator will light green.

8. Zone Button

Press Zone button to make specific zone active.

9. All Clear Indicator

Indicates that all of zone is not active. All Clear indicator will light green.

10. All Clear Button

Press All Clear button to make all zones inactive. All of zone indicator will turn off.

11. INPUT 1 Phone Jack

Selectable input -60/-20 dB, balanced 2.2 kΩ. INPUT 1 have 2 inputs, in front of panel (phone jack) and inside panel (terminal block). When INPUT 1 phone jack used, then signal from INPUT 1 terminal block will be muted.

12. Inputs Indicator

Indicates that specific input is active. Indicator will light green.

Note

When some input set as Main Broadcast, indicator of specific inputs still turn off during all of zone is not active. Activate some zone to play Main Broadcast.

13. Volume Control

There are 4 volume input can be adjusted from front panel are INPUT 1, REMOTE MIC, FRONT MIC and INPUT 2. Tuning volume control clockwise for increase the volume, and counter clockwise for decrease the volume.

14. Tone Control

There are 2 tone control can be adjusted from front panel are BASS and TREBLE. Tuning volume clockwise for boost the tone, and counter clockwise for cut the tone.

Note

Control low and high frequencies with range ± 10 dB for INPUT 1, INPUT 2, and EXT MODULE

15. Status Indicator

There are 4 status indicator are FAULT, PEAK, SIGNAL, and POWER.

FAULT (Red)

Indicates that failure condition happen in the system (Power Amplifier Failures).

PEAK (Red)

Indicates that audio signal out in peak condition.

SIGNAL (Green)

Indicates that there is a signal out.

POWER (Green)

Indicates that the power of system is turn on.

16. Blank Panel

This panel can be replaced by optional MP3 module MP-300-AS. For more information about MP-300-AS, see page 20.

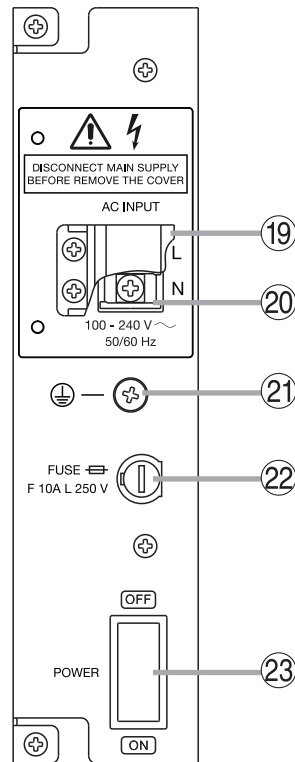
17. Front Microphone

Pressed the switch to make announcements, and release it when finished. There are 2 modes of using the microphone, during an emergency and general. When emergency active, FRONT MIC will have the highest priority level. In general, FRONT MIC will be Main Broadcast and Main Broadcast have the lowest priority level.

18. Key Hole

FV-2148W-AS provide the cut hole key at door panel for installing key as additional safety that can be installed by user.

[Inside Panel]



19. Terminal Cover

To avoid electric shock by high voltage from terminal, put back terminal cover after connecting the cable and do not remove before disconnect main supply AC voltage.

20. Terminal AC Input

Connect to an AC power source with voltage range 100 – 240 V AC.

21. Earth Terminal

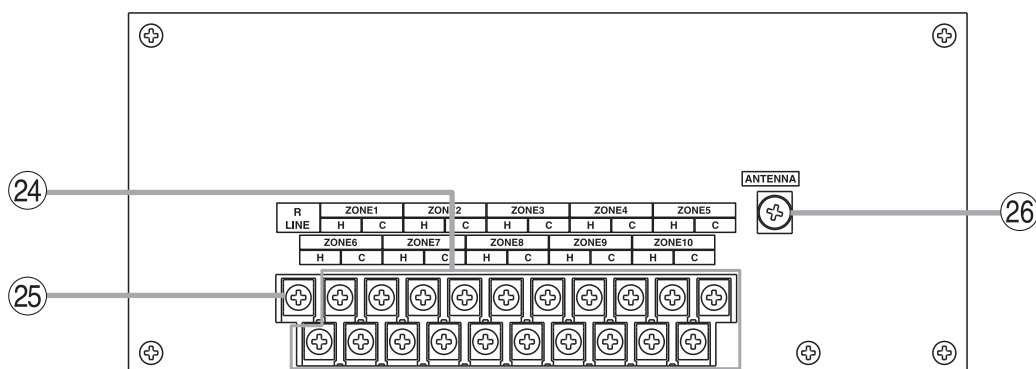
Connect this terminal to the Earth wire of AC power source.

22. Fuse Holder

Fuse protection, 10 A 250 V

23. AC Power Switch

Press switch to lower position to turn on the system, and switch to upper position to turn off the system.



24. Zone Terminal

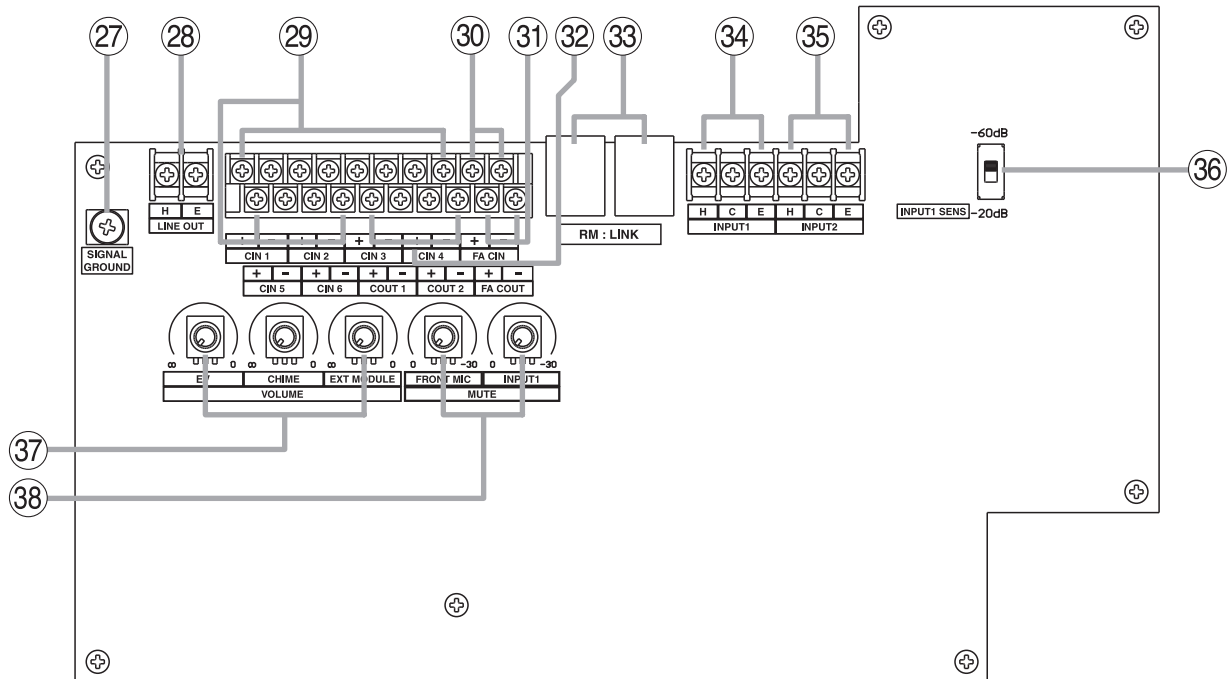
There are 10 zone terminal for connecting speaker. Use with high impedance speaker only.

25. R Line Terminal

R line for all zone, when one or more zone are activated, then R line will active either. R will connect to Hot when active and connect to Com when deactive.

26. Antenna Terminal

Connect to external antenna for radio feature on optional MP-300-AS module.



27. Functional Earth Terminal

Connect this terminal to the functional earth terminal of external equipment if excessive noise is generated when external equipment connect to the system. It could reduce noise.

Note

This terminal is not for protective earth.

28. Line Out Terminal

Audio signal output 1 V RMS, connect to the external power amplifier when user need additional power amplifier.

29. Control Input Terminal

There are 6 control inputs with function depend on dip-switch settings, detail see on chapter "Dip Switch Settings". Open voltage 24 V DC, short-circuit current under 5 mA.

30. Fire Alarm Input Terminal

Connect this terminal to fire alarm system, to detect there are emergency condition occurs in the building. Open voltage 24 V DC, short-circuit current under 5 mA.

31. Fire Alarm Output Terminal

Connect this terminal to other device, will active when system enter to emergency mode. Relay output, rated voltage 30 V DC, current 1 A.

32. Control Output Terminal

There are 2 control output with function are below:

- Control output 1 active during emergency
- Control output 2 active when power amplifier failures

Relay output, rated voltage 30 V DC, current 1A.

33. RM LINK Terminal

Connect these terminal to remote microphone (RM-200M) using cat-5 cable or higher. Able to handle 4 units of RM-200M.

34. INPUT 1 Terminal

Audio signal input with selectable sensitivity -60 / -20 dB, 2.2 k Ω , Balanced, 3 pins terminal block. This input is able to set as main broadcast (mixing with Front Microphone) or individual input with priority higher than main broadcast. When INPUT 1 phone jack used, then signal from INPUT 1 terminal block will be muted.

35. INPUT 2 Terminal

Audio signal input with sensitivity -20 dB, 10 k Ω , Balanced, 3 pins terminal block. This input able to set as main broadcast (mixing with Front Microphone) or individual input with priority higher than Main Broadcast.

36. INPUT 1 Selectable Sensitivity Switch

There are 2 sensitivity options for INPUT 1 are -60 dB or -20 dB.

37. Volume Control

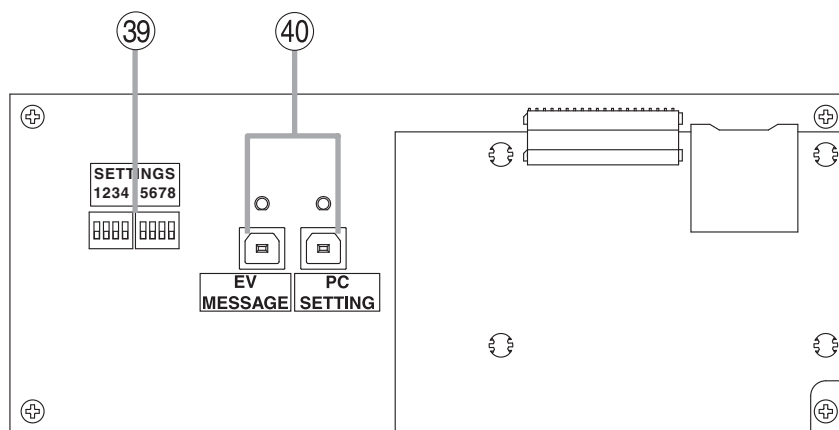
There are 3 volume inputs can be adjusted from inside panel are EV, CHIME and optional MP3 Player Module.

38. Mute Adjust Volume

Mute adjust volume overrides other inputs with attenuation range are 0 ~ 30 dB.

- FRONT MIC: Will mute other signal when signal from FRONT MIC comes out.
- INPUT 1: Will mute signal from INPUT 2 and/or optional MP3 Player module when signal from INPUT1 comes out.

[Back of the Door Panel]



39. DIP Switch Settings

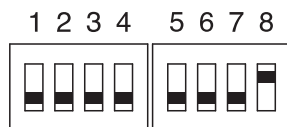
This switch performs the following settings.

- Switch 1: INPUT 1 activated by control input
- Switch 2: INPUT 2 activated by control input
- Switch 3: Emergency message activated by control input
- Switch 4: Use of Remote Mic
- Switch 5-8: No use

Default setting or factory preset is described below.

Switch 1-7: OFF

Switch 8 : ON



Detail will be described on chapter “Dip Switch Settings”, see page 13.

40. USB Connectors

There are 2 USB connectors are “EV Message” and “PC Settings”

Connect these connectors to PC and do following settings:

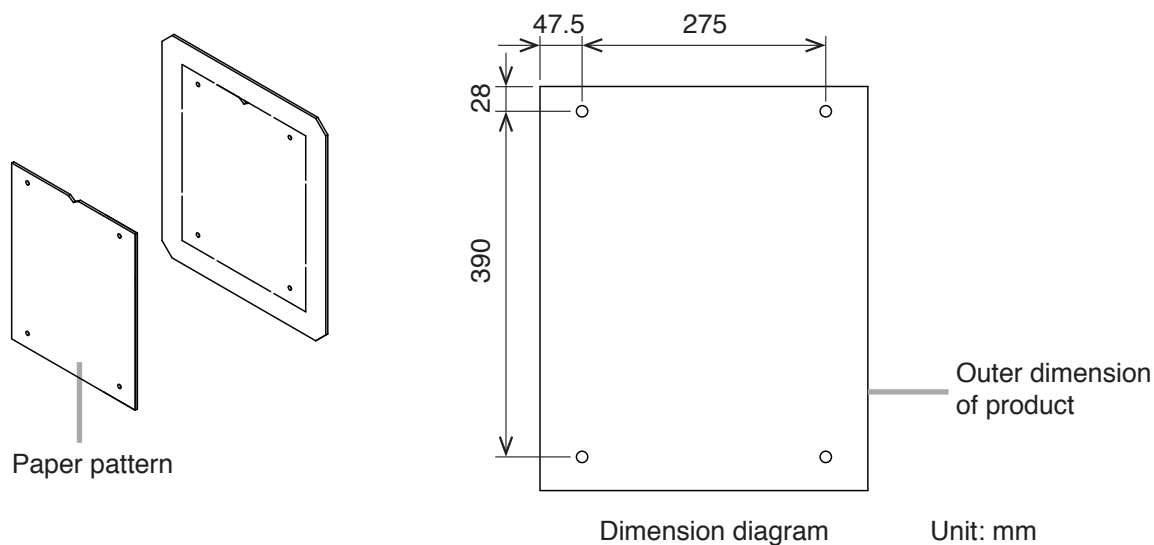
- EV Message: to change content of message in the EV Module
- PC Setting: to customizing system regarding to user's inquiry (contact to installer for customize system feature)

6. INSTALLATION AND SETTING PROCEDURES

6.1 Installation FV-2148W-AS system On a Wall

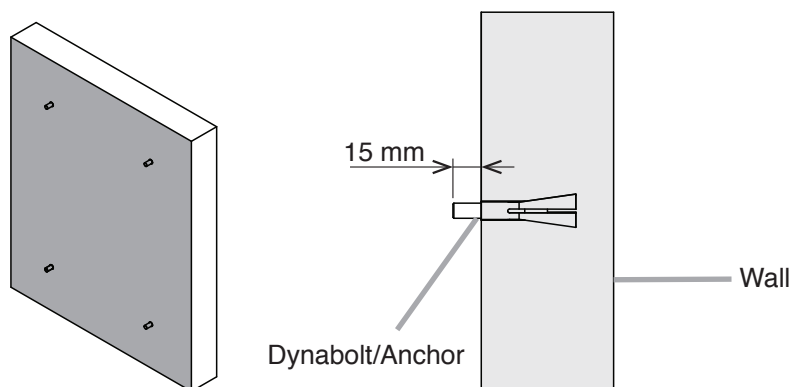
Step 1. Using the supplied paper pattern as guide or follow the dimension diagram below, make 4 hole marking position.

Step 2. Make 4 holes by impact drill with masonry drill bit $\varnothing 10$ mm.

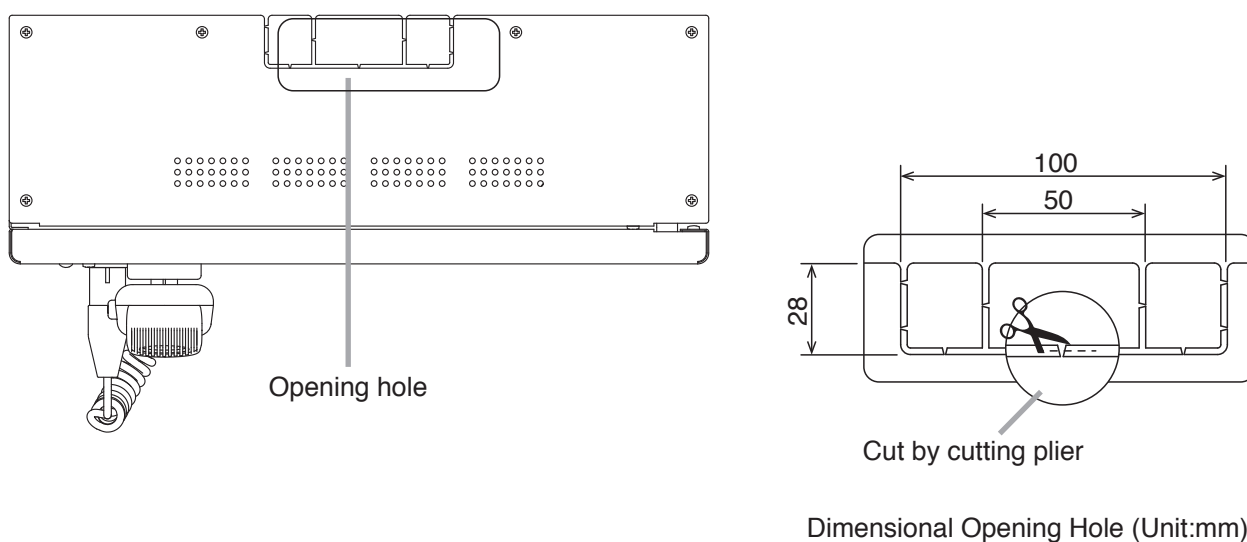


Step 3. Installation dynabolt/anchor sleeve size 10 (This is not supplied with product)

- 3-1. Insert 4 dynabolt/anchor sleeve to the wall through hole drill.
- 3-2. Tighten the nut until the bolt comes out with distance 15 mm from wall.
- 3-3. Detach the nut or loosen the nut to make space or to hook the unit.

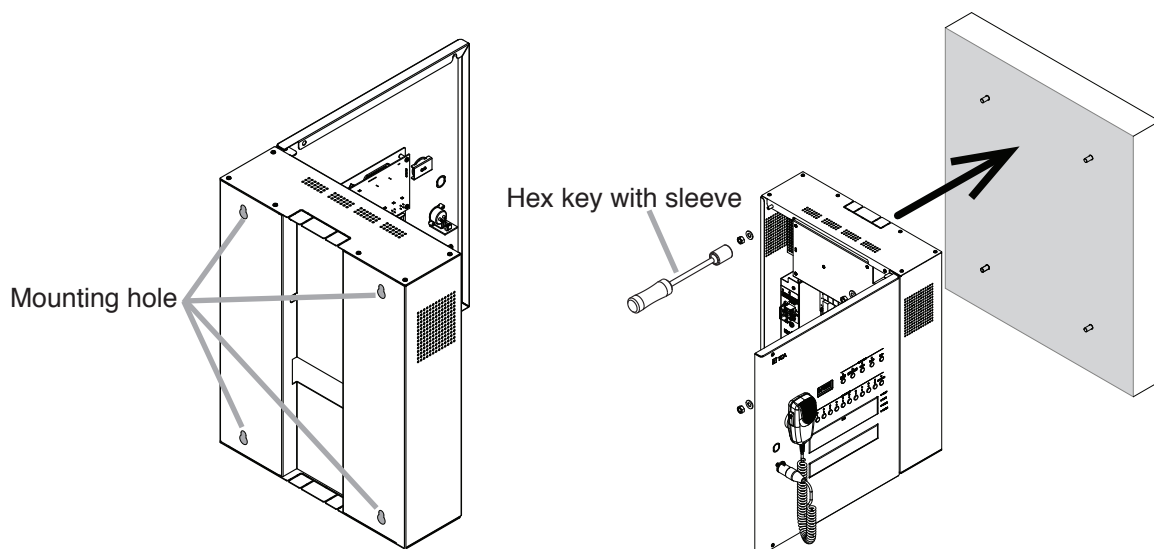


Step 4. Cut the opening hole at TOP or BOTTOM PANEL of unit for cable path.



Step 5. Attach the unit to the wall by hook the mounting hole at back side of unit to the bolt that attached on the wall.

Step 6. Tighten the 4 nuts by Hex key with sleeve and make sure the secure installation.

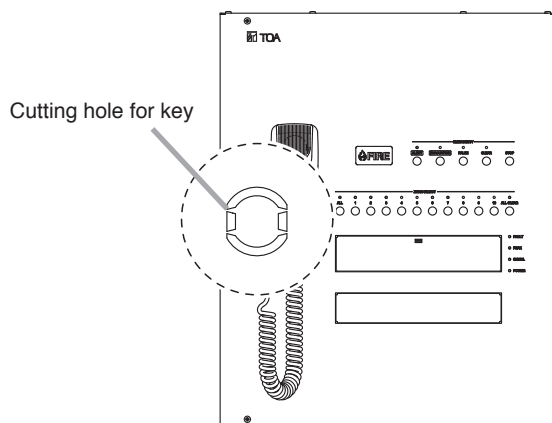


6.1.1 Installation Key

For safety, FV-2148W-AS has feature for install the key on door panel side to prevent someone access the inside of unit. The key is not supplied with product. Bellow the specification key should be followed.

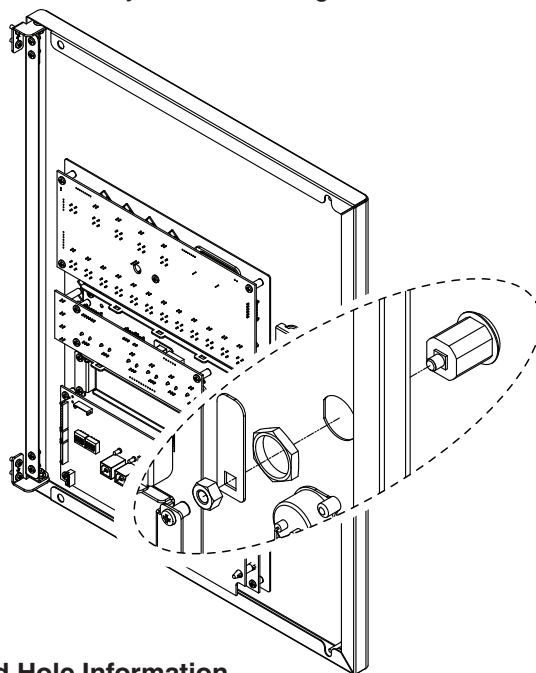
Step 1.

Cut the cutting hole on door panel by cutting plier.



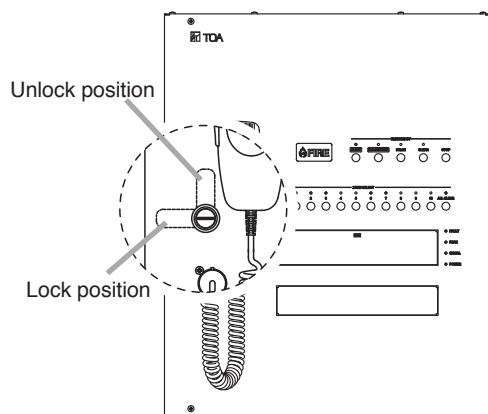
Step 2.

Install the key, follow the image below.

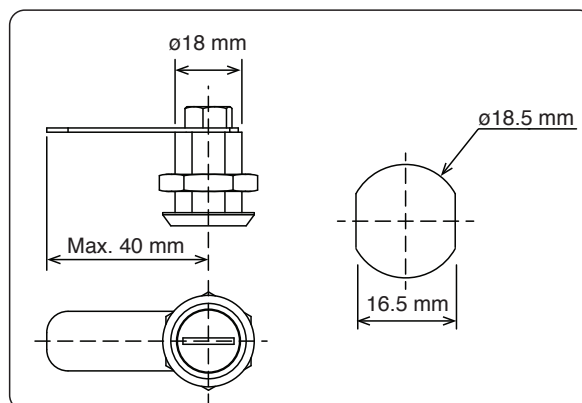


Step 3.

Set the position key follow the image below.

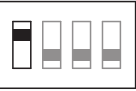
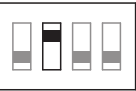


Key and Hole Information

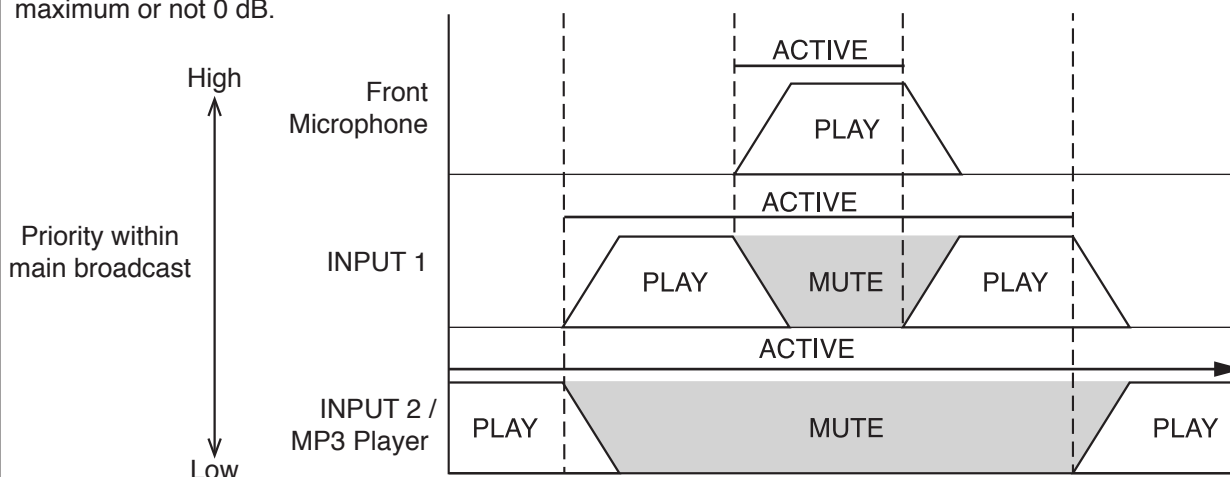


6.2 Dip Switch Settings

DIP Switch is located at back of the door panel. DIP Switch has function for basic configuration setting before running the system. DIP Switch setting has 8 pins with specific function following below.

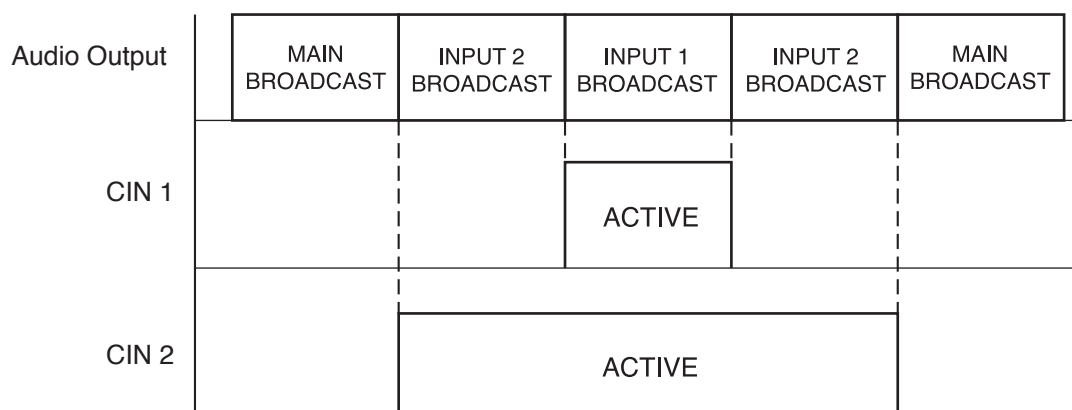
Figure	Switch Status	Function
 1 2 3 4	Switch Pin 1 OFF	Channel Input 1 will be Main Broadcast (mixed with audio signal from Front MIC).
 1 2 3 4	Switch Pin 1 ON	Channel Input 1 will be individual broadcast with priority level higher than Main Broadcast, Control Input 1 assigned as trigger for INPUT 1 activation.
 1 2 3 4	Switch Pin 2 OFF	Channel Input 2 will be Main Broadcast (mixed with audio signal from Front MIC).
 1 2 3 4	Switch Pin 2 ON	Channel Input 2 will be individual broadcast with priority level higher than Main Broadcast, Control Input 2 assigned as trigger for INPUT 2 activation

Below are timing diagram when dip switch pin 1 and 2 are OFF. Mute Volume of Front Mic and INPUT 1 are maximum or not 0 dB.

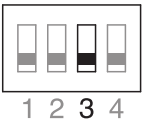
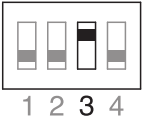


The priority level will be FRONT MIC >> INPUT 1 >> MAIN BROADCAST (FRONT MIC and Optional MP3 Player module). Priority level triggering by signal audio from Front MIC and INPUT 2.

Below are timing diagram when dip switch pin 1 and 2 are ON:

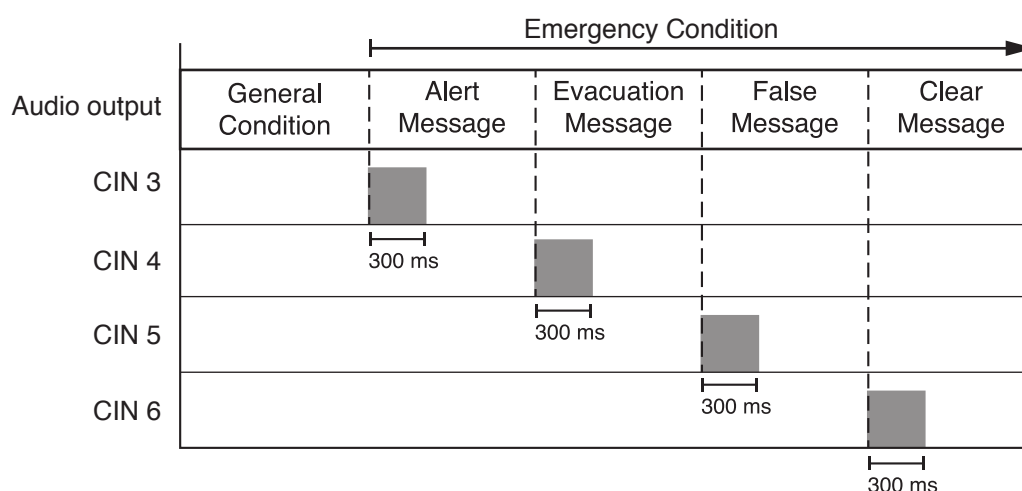


The priority level will be INPUT 1 >> INPUT 2 >> MAIN BROADCAST (FRONT MIC and Optional MP3 Player module). To activate audio signal from INPUT 1 and INPUT 2, need to triggering CIN 1 and CIN 2.

Figure	Switch Status	Function
 1 2 3 4	Switch Pin 3 OFF	Control Input 3 – 6 will be un-used
 1 2 3 4	Switch Pin 3 ON	Control Input 3 – 6 assigned as trigger for emergency message activation with detail below: · Control Input 3 for Alert Message activation · Control Input 4 for Evacuation Message activation · Control Input 5 for False Message activation · Control Input 6 for Clear Message activation

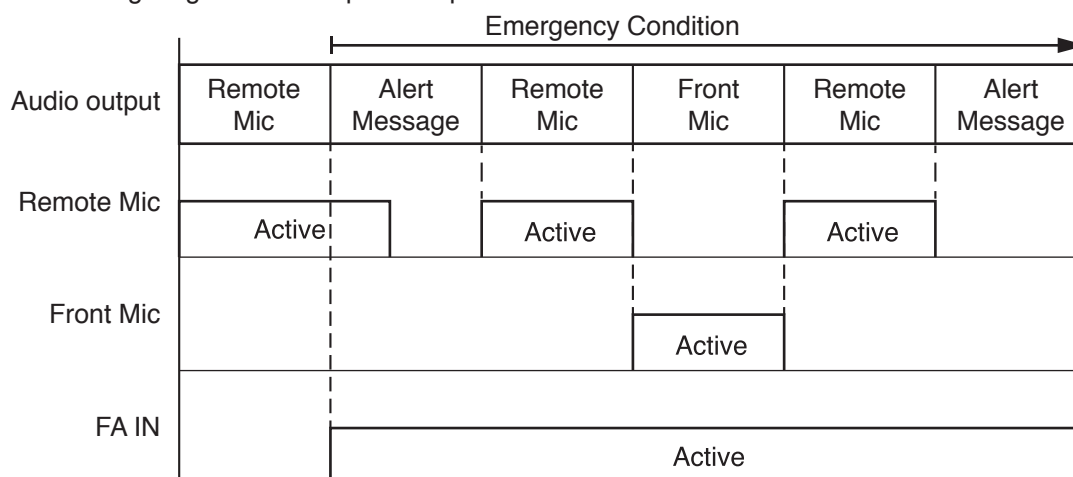
Activating emergency message will make system enter to emergency mode (Fire indicator light, FA Output active).

Below are timing diagram when dip switch pin 3 is ON:



 1 2 3 4	Switch Pin 4 OFF	Remote Mic used only in general broadcast.
 1 2 3 4	Switch Pin 4 ON	Remote Mic able to used in emergency and general broadcast. During emergency broadcast. Remote Mic will have higher priority level than emergency message but lower than Front MIC.

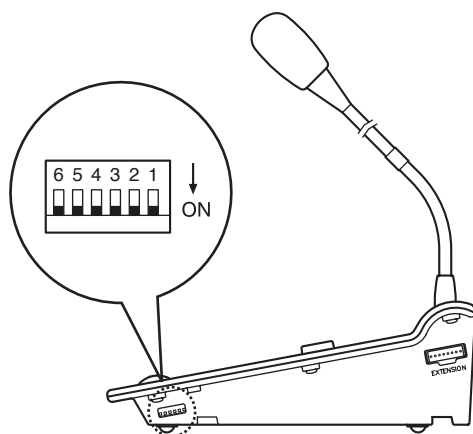
Below are timing diagram when dip switch pin 4 is ON:



Note :
Switch Pin 5-8 is no use

6.3 Remote Microphone Settings

6.3.1 DIP Switch Functions



RM-200M side

Switch No.	Function	Factory-preset
1	Unit ID No. Setting	ON
2		
3	—	
4	Talk key operation	
5	—	
6	Compression ON/OFF	

6.3.2 Unit ID Number Settings (Switch 1 and 2 operation)

To set the unit ID number, use the DIP switches 1 and 2 for the RM-200M.

Note

The DIP switch is located on the side surface for the RM-200M.

Unit ID No.	Switch No. 1	Switch No. 2
1	ON	ON
2	OFF	ON
3	ON	OFF
4	OFF	OFF

6.3.3 Talk Key Settings (Switch 4 operation)

Set the operating system of the RM-200M's front-mounted Talk key.

Setting the DIP switch 4 located on the RM-200M's side surface to ON enables announcement to be broadcast while the Talk key is held down. Releasing the Talk key terminates the broadcast. (Press-To-Talk or PTT mode)

Setting the DIP switch 4 to OFF enables a broadcast to initiate and pressing the key again terminates the broadcast. (Lock mode)
(Default: ON)

6.3.4 Compression Settings (Switch 6 operation)

To perform compression settings, use the DIP switch No. 6 for RM-200M.

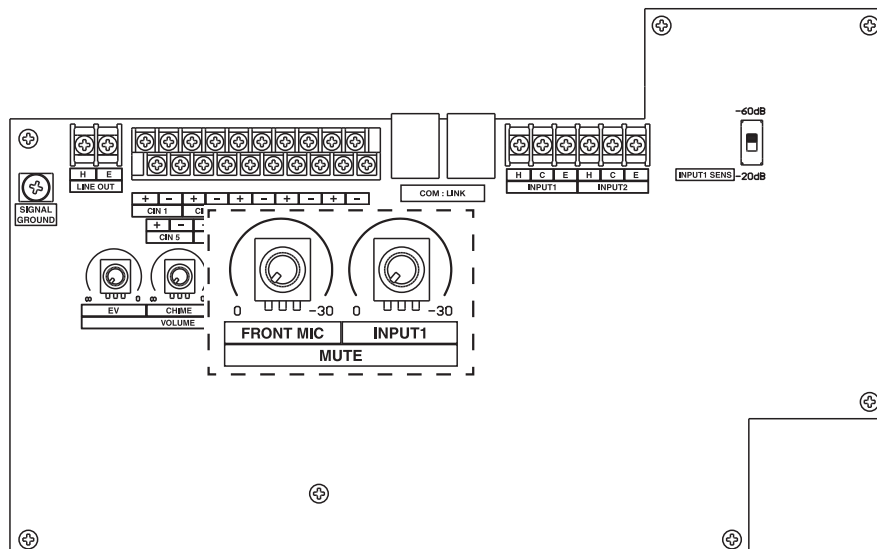
Note

The DIP switch is located on the side surface for the RM-200M. Setting the DIP switch to ON enable announcements to be broadcast without distortion even if excessive input signal is applied to the microphone. (Default: ON)

6.4 Muting Function

There are 2 mute functions applied at Front Mic and INPUT 1 (mute at INPUT 1 is working while INPUT 1 assigned as Main Broadcast). When Front Mic is used, it takes precedence and automatically reduces the volume of INPUT 1, INPUT 2, and EXT Module. When INPUT 1 is used, it takes precedence and automatically reduces the volume of INPUT 2 and EXT Module. Range of attenuation level is from 0 to 30 dB, which is adjustable with MUTE volume inside of the panel. The attenuation level is preset to 0 dB at the factory.

[Inside Panel]



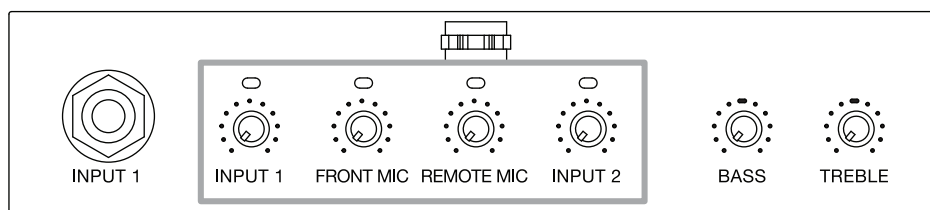
6.5 Volume Control Settings

Output levels are adjustable with individual volume controls. For music play or announcement, adjust the corresponding volume control so that the red peak indicator lights intermittently.

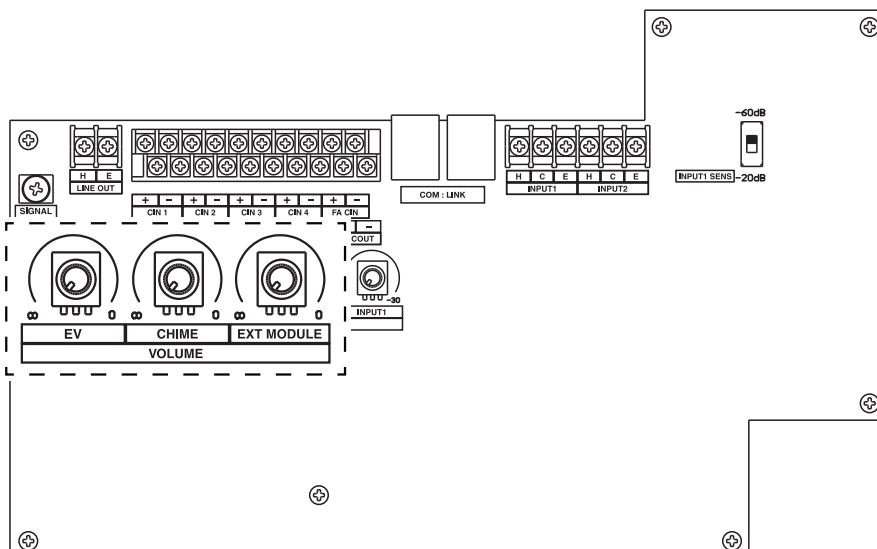
Note

Quality of sounds may be downgraded when peak indicator remains lit.

[Front/Inside the front cover]

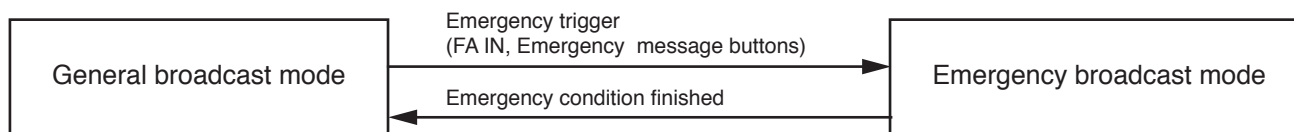


[Inside Panel]



7. OPERATION

Operation of FV-2148W-AS is divided into Emergency broadcast and General broadcast mode. When the system detect or receive emergency trigger, the operation will change from General broadcast to Emergency broadcast mode. After the emergency mode is finished, FV-2148W-AS should be switched to general broadcast mode by push the CLEAR button.



7.1 Emergency Broadcast

A system that integrates with EV module allows emergency broadcasts to be made automatically, through connecting to an automatic fire alarm system, or manually via emergency button (Alert, Evacuation, False, Clear). Emergency broadcast have the highest priority. When an emergency broadcast is activated, General purpose broadcast are stopped to allow the emergency broadcast to be heard. Emergency broadcast is performed to all zones.

When an emergency broadcast ends,

- If the broadcast was from the RM-200M, then it will return to stand by state. (not broadcasting)
- If the broadcast was a paging from INPUT 1 or INPUT 2, then it will automatic broadcast. (in case INPUT 1 or INPUT 2 assigned as individual channel / not as Main Broadcast)

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

[Alert announcement]

"Attention. We are investigating the cause of the fire alarm. Please standby for more instructions."

[Evacuation announcement]

"Attention. There is a fire in the building. Stay calm and get out using the nearest exits and staircases now."

[False announcement]

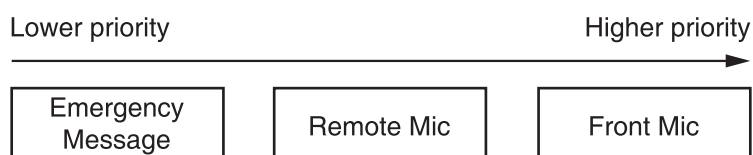
"Attention, it was a false alarm. It is safe to remain in the building. Thank you."

[Clear announcement]

"Attention, the situation is under control. It is safe to stay in the building. Thank you."

7.1.1 Types of Emergency Broadcast

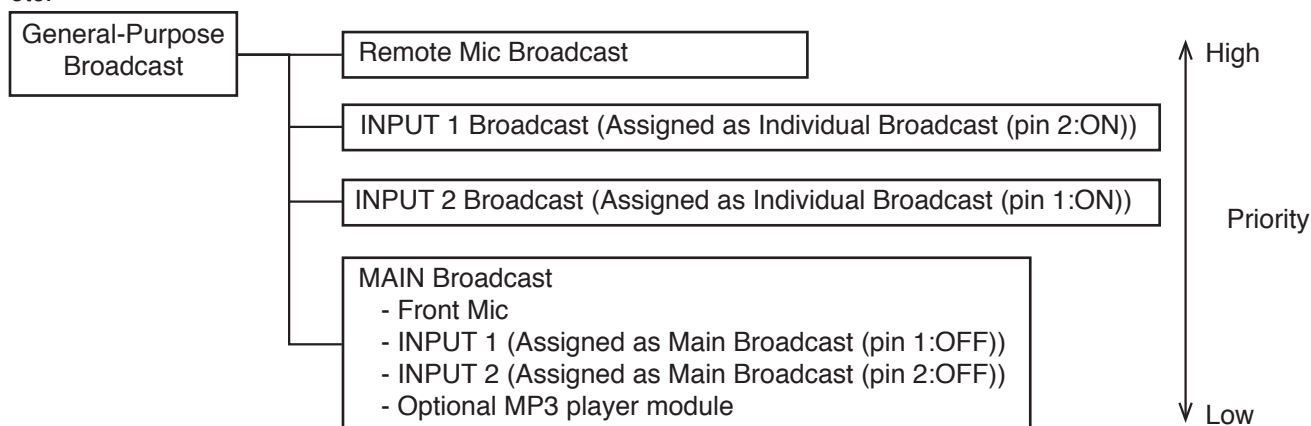
There are 3 inputs can broadcast in emergency mode are emergency message, Front Mic, and Remote Mic (if Remote Mic assigned as announcer for emergency purposes) with priority as follow.



7.2 General Purpose Broadcast

7.2.1 Types of General-Purpose Broadcast

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



[Remote Mic]

Announcement can be made to specific area using zone selection keys on Remote Microphone.

[INPUT 1 as individual broadcast]

When control input 1 is active, the broadcast will send to all zones until control input 1 deactivated.

[INPUT 2 as individual broadcast]

When control input 2 is active, the broadcast will send out to all zones until control input 2 deactivated.

[Front MIC]

When switch on Front Microphone pressed, the broadcast will send out to specific zones (refer to switch zone selection in front of panel) until switch released.

[INPUT 1 as Main Broadcast]

Signal from INPUT 1 will be mixed with Front Microphone and will send out to specific zones (refer to switch zone selection in front of panel).

[INPUT 2 as Main Broadcast]

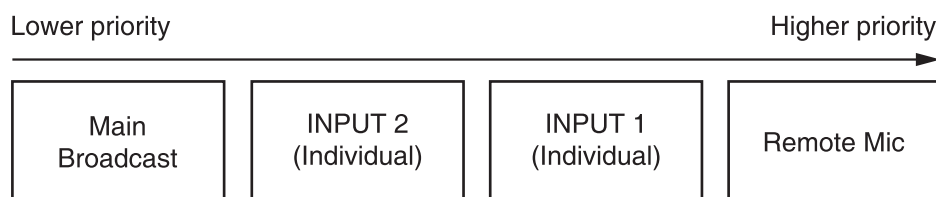
Signal from INPUT 2 will be mixed with Front Microphone and will send out to specific zones (refer to switch zone selection in front of panel).

[Optional MP3 Player module/Ext Module]

Signal from Optional MP3 Player module/Ext Module will be mixed with Front Microphone and will send out to specific zones (refer to switch zone selection in front of panel).

7.2.2 Order of Priority among Priority Broadcast

General-purpose broadcast are not broadcasting all of inputs at once. Rather, they are issued one at a time following a specific order of priority as follows.



Example:

If there is announcement from Remote Microphone, only that broadcast will be performed, other lower priority inputs will be cut.

[Order of priority among the RM-200M units]

There is a priority that regulates if there are 2 or more RM broadcasts.

Default priority is Last-In-First-Out (LIFO), priority is given to RM unit that last selected a broadcast area

Ask to installer to change priority of RM.

8. POWER CORD CONNECTION



WARNING

Before connecting the power cord, make sure the power cord is not energized! Otherwise it can cause injury or death!

Power cord connection can be connected after FV-2148W-AS are installed onto the wall. The power cord must use AWG 18 copper wire (cross-sectional area 0.8mm²) or copper wire with larger cross-sectional area to ensure sufficient current-carrying capability.

Step 1. Open the Door Panel. Make sure the power cord is not energized and AC Power Switch is toggled to the “OFF” position.

Step 2. Detach the Terminal Cover

Step 3. Make connection

3-1. Strip the insulation layer of the live, neutral, and ground wires of the power cord by 8 mm.

Note: Highly recommended to use insulated ring terminal.

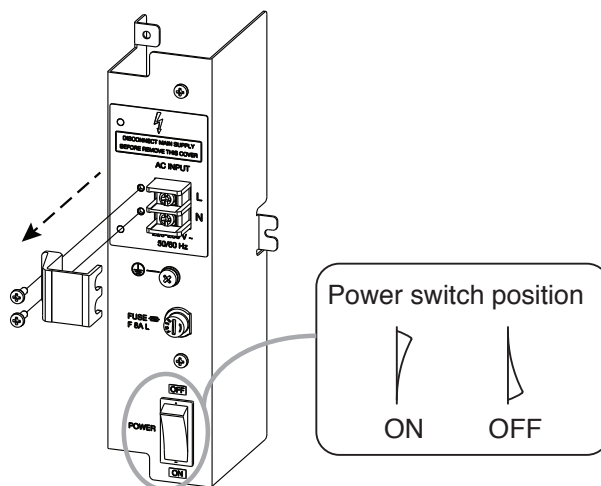
3-2. Connect the lives and neutral wires to the Terminal AC Input and connect the ground wire to Earth Terminal.

3-3. Pull the wires to ensure the secure connection.

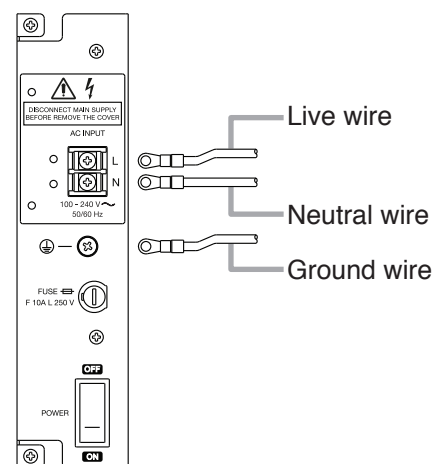
Step 4. Attach the Terminal Cover back to panel.

Note: Do not Remove or Detach the Cover during the power cord is energized.

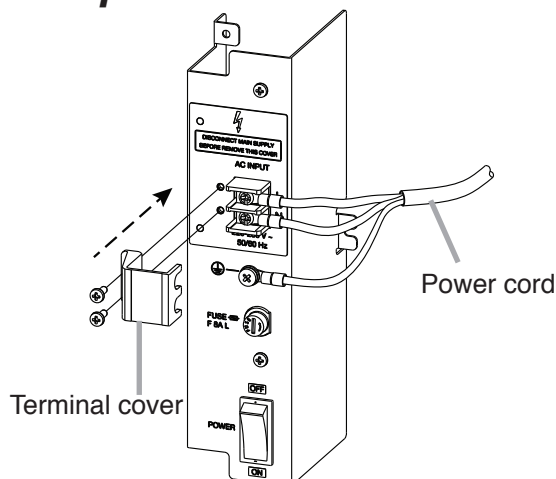
Step.1-2



Step. 3



Step. 4



Long strip insulation cable

8 mm



Reference Insulated ring terminal from Dinkle (Code part DNH1-243)

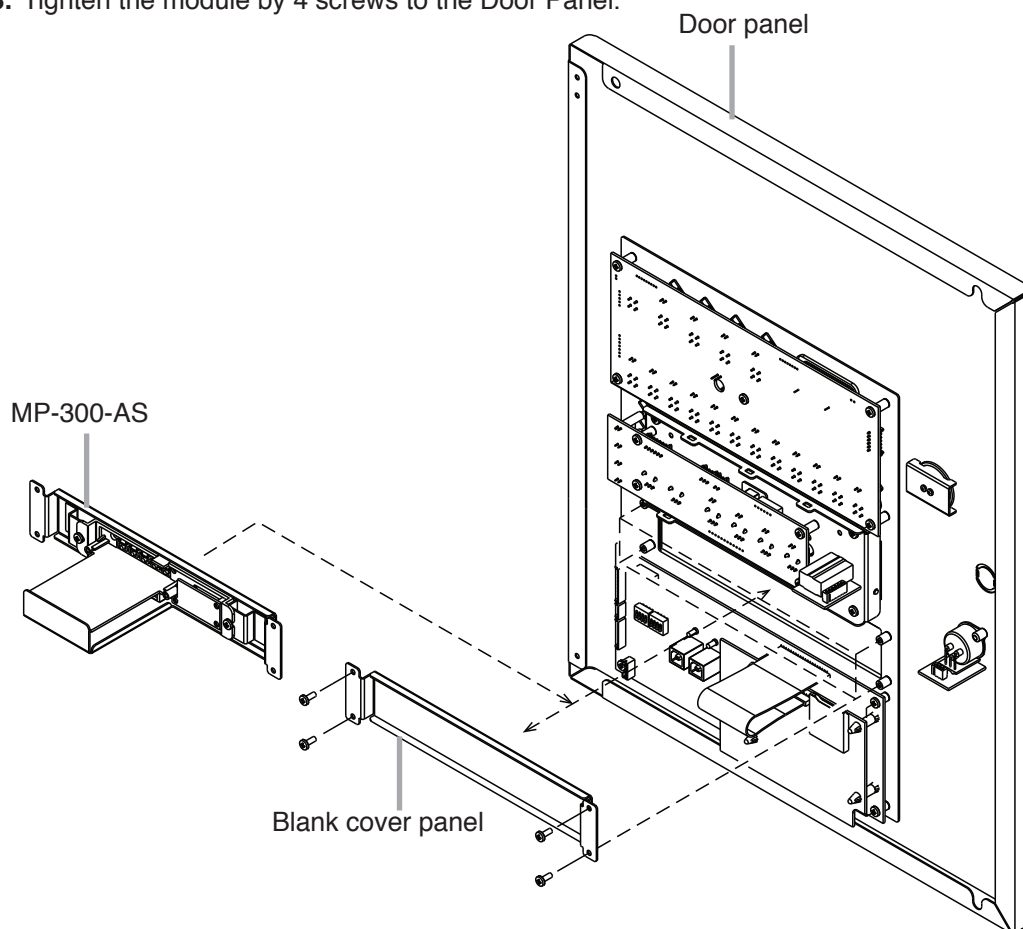


9.2 Installation

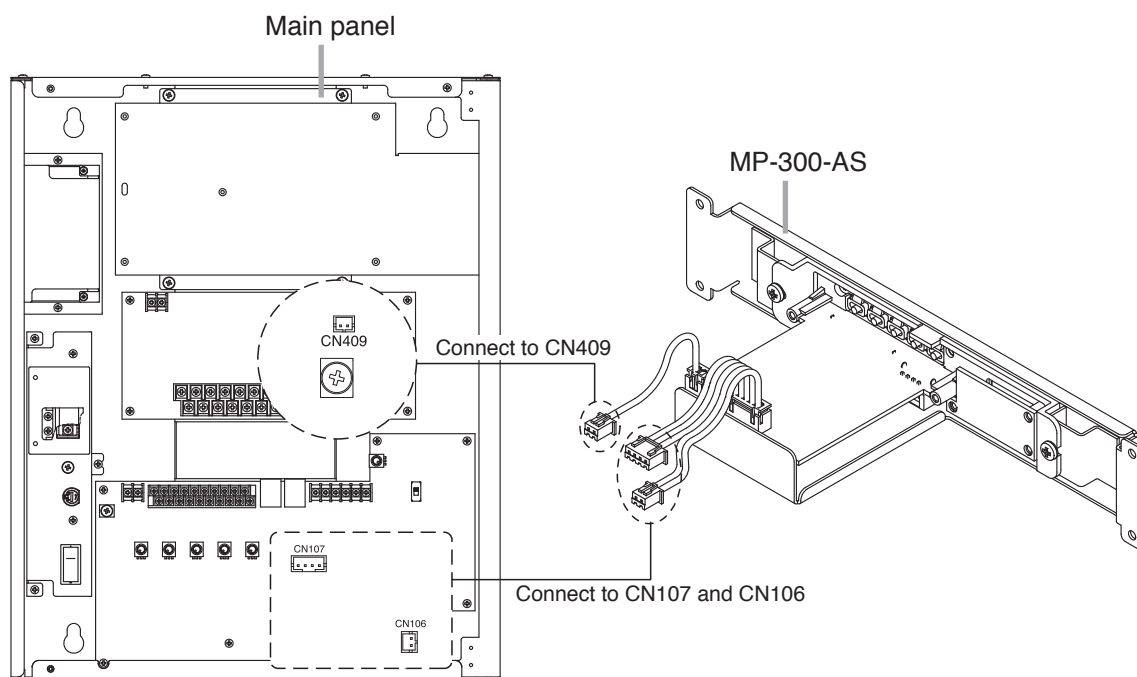
Step 1. Detach the blank cover panel at the Door Panel by loosen the 4 screws on the back side of Door Panel.

Step 2. Install the optional MP-300-AS module.

Step 3. Tighten the module by 4 screws to the Door Panel.



Step 4. After the module is installed to Door Panel, make connection by connect the cable from MP-300-AS to the connector on main panel side. Follow the instruction below for connection cable.



10. SPECIFICATIONS

Power Source	100 - 240 V AC ~ 50/60 Hz, M4 screw terminal
Power Consumption	99 W (EN 62368-1) 530 W (Rated Output)
Rated Output	480 W
Input	Front Microphone: -60 dB*, 2.2 kΩ, unbalanced, XLR connector Input 1: -60 dB*/-20 dB* (selectable), 2.2 kΩ, balanced, screw terminal Phone Jack priority (if connect to phone jack, voice change automatically) Input 2: -20 dB*, 10 kΩ, balanced, screw terminal
Remote Microphone	Usable Remote microphone: RM-200M Max 4 unit, RJ45 Maximum cable distance: Total 800 m
Output	Speaker Output: Screw terminal Speaker Selector: 10 Zones, high impedance (100 V line) individual selector, group
S/N Ratio	Over 60 dB
Total Harmonic Distortion	Under 1% at 1 kHz, 1/3 rated power
Frequency Response	50 Hz - 20000 Hz
Tone Control	Bass: ± 10 dB at 100 Hz Treble: ± 10 dB at 10 kHz
Emergency Announcement	Alert, Evacuation, False, Clear (repeated continuously / one time, selectable)
Built-in Chime	2 chimes
Control Input	FA IN: No-voltage contact input, open voltage: 24 V DC, short-circuit current: under 5 mA, screw terminal CTRL IN 1 - 6: No-voltage make contact input, open voltage: 24 V DC, short-circuit current: under 5 mA, screw terminal. (assignable)
Control Output	FA OUT: Relay contact output, rated voltage: 24 V DC, screw terminal CTRL OUT 1 - 2: Relay contact output, rated voltage: 24 V DC, screw terminal. (assignable)
Indicator	Power, Signal, Peak, Fault Each of Zone, All Zone Alert, Evacuation, False, Clear
Operating Temperature	0 °C to +40 °C
Operating Humidity	Under 90 % RH (no condensation)
Ventilation	Fan Cooling
Finish	Steel Plate, Paint, Black
Dimensions	370 (w) x 456 (h) x 132(d) mm (14.57" x 17.95" x 5.20")
Weight	9.1 kg (20.06 lb) (Include Front Mic)
Accessories	Paper pattern 1, Front Mic 1
Optional	MP-300-AS

