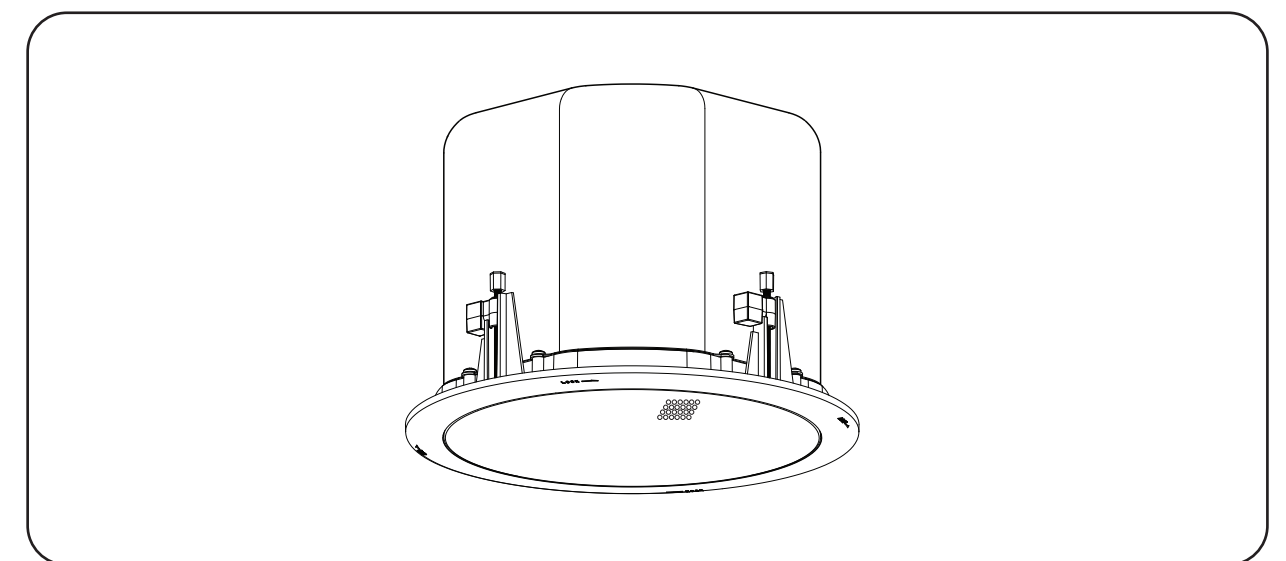




## INSTRUCTION MANUAL

# CEILING SUBWOOFER

**FB-2862C-AS**  
**FB-2862C-EA**  
**FB-2862C-EB**



## TABLE OF CONTENTS

|                                     |   |                                                           |    |
|-------------------------------------|---|-----------------------------------------------------------|----|
| 1. SAFETY PRECAUTIONS .....         | 2 | 6. REMOVING THE SPEAKER<br>FOR MAINTENANCE .....          | 9  |
| 2. GENERAL DESCRIPTION .....        | 3 | 7. ABOUT THE INPUT OVERLOAD<br>PROTECTION CIRCUITRY ..... | 10 |
| 3. FEATURES .....                   | 3 | 8. SPECIFICATION .....                                    | 11 |
| 4. NOMENCLATURE AND DIMENSIONS .... | 4 |                                                           |    |
| 5. INSTALLATION .....               | 5 |                                                           |    |

### Traceability Information for Europe

Manufacturer:  
TOA Corporation  
7-2-1, Minatojima-Nakamachi, Chuo-ku, Kobe, Hyogo,  
Japan

Authorized representative:  
TOA Electronics Europe GmbH  
Suederstrasse 282, 20537 Hamburg,  
Germany

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

1. SAFETY PRECAUTIONS

- Be sure to read the instructions manual in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction 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**

- Leave the installations to your TOA dealer because the installation requires expert knowledge. Improper installation may cause the unit to fall, resulting in personal injury and/or property damage.
- Install the unit in a location that can structurally support the weight of the unit and its mounting hardware. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Do not use other methods than specified to mount the unit. Extreme force is applied to the unit and the unit could fall off, possibly resulting in personal injuries.
- Attach the safety wire to the unit. If not attached, the unit could fall off, resulting in personal injury.
- Tighten each screw securely. Ensure that the unit has no loose joints after installation to prevent accidents that could result in personal injury.
- Do not push speaker surface when installation unit to ceiling. Resulting in unit damage.
- Use the specified mounting hardware in combination. Doing otherwise may cause the unit or component to fall off, resulting in personal injury.
- Should the following irregularity be found during use, immediately stop operating the unit and contact your nearest TOA dealer. Further attempt to use under this condition may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit
  - If no tone sounds
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in loactions generating sooty smoke or steam as doing otherwise may result in fire or electrical shock.
- 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.
- Avoid touching the unit's sharp metal edge to prevent injury.

 **CAUTION**

8. SPECIFICATIONS

|                         |                                                                                                                                                                                                                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enclosure               | Bass reflex type                                                                                                                                                                                                                                                                           |
| Rated Input             | 60 W (High Impedance)                                                                                                                                                                                                                                                                      |
| Power Handling Capacity | Continuous: 60 W (8Ω) (IEC6026-5)<br>Program: 120 W (8Ω)                                                                                                                                                                                                                                   |
| Impedance               | 100 V line: 170Ω (60 W), 330Ω (30 W), 670Ω (15 W), 3.3kΩ (3 W)<br>70 V line: 83Ω (60 W), 170Ω (30 W), 330Ω (15 W), 670Ω (7.5 W), 3.3kΩ (1.5 W)<br>25 V line: 83Ω (7.5 W), 170Ω (3.7 W), 330Ω (1.9 W), 670Ω (0.9 W), 3.3kΩ (0.2 W)<br>8Ω                                                    |
| Sound Pressure Level    | 87 dB (1 W, 1 m) Installation in 1/2 free sound field<br>(Measured by installing the unit in the center of a ceiling or wall)<br>81 dB (1 W, 1 m) Installation in free sound field (Measured in anechoic chamber)                                                                          |
| Frequency Response      | 60 - 250 Hz (-10 dB) Installation in 1/2 free sound field<br>(Measured by installing the unit in the center of a ceiling or wall)                                                                                                                                                          |
| Speaker Component       | Low frequency : 16 cm (6.5") cone-type                                                                                                                                                                                                                                                     |
| Mounting Hole           | ø 250 mm (9.8")<br>Maximum ceiling thickness: 37 mm (1.5")                                                                                                                                                                                                                                 |
| Input Terminal          | Removable locking connection with screw-down terminals<br>(2 input terminals and 2 bridge terminals)                                                                                                                                                                                       |
| Usable Cable            | Solid copper wire: ø0.5 – ø1.6 mm (equivalent to AWG 24 – 14)<br>Stranded copper wire: 0.2 – 2.5 mm <sup>2</sup> (equivalent to AWG 24 – 14)                                                                                                                                               |
| Finish                  | Enclosure: Steel plate, plating<br>Baffle: Fire-resistant ABS resin (resin material grade: UL-94 V-0 or its equivalent), black<br>Rim: Fire-resistant ABS resin (resin material grade: UL-94 V-0 or its equivalent), white (RAL 9016)<br>Punched net: Steel plate, white (RAL 9016), paint |
| Dimensions              | ø 280 mm (11") X Depth 198 mm (7.8")                                                                                                                                                                                                                                                       |
| Weight                  | 6.3 kg (including mounting accessories)                                                                                                                                                                                                                                                    |

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

• **Accessories**

|                                           |   |
|-------------------------------------------|---|
| Front Grille .....                        | 1 |
| Ceiling reinforcement ring .....          | 1 |
| Safety wire (approx. 60 cm (23.6")) ..... | 1 |
| Paper pattern .....                       | 1 |

• **Optional Components**

|                                  |                                                                                                    |
|----------------------------------|----------------------------------------------------------------------------------------------------|
| HY-TB1 (Tile Bar Bridge):        | Place this bridge on the ceiling frame when mounting the speaker unit to a weak suspended ceiling. |
| HY-AH1 (Anchor Hanging Bracket): | Attach this bracket to an anchor bolt when mounting the speaker unit to a weak ceiling.            |

7. ABOUT THE INPUT OVERLOAD PROTECTION CIRCUITRY

The FB-2862C features internal input overload protection circuitry. If an extremely high input level is fed to the unit, the protection circuitry automatically cuts off the signal to the speaker element. A drastic reduction in sound volume indicates the the protection circuitry has been enabled. In such cases, simply reduce the amplifier volume. The protection circuitry will automatically reset in approximately10 seconds. After reset, try to maintain the volume at a level slightly lower than before.

Caution

This protection circuitry does not completely protect the unit against extremely high input power levels. Depending on the type or duration of excessive power input, the protection circuitry might not be enabled, resulting in damage to the speaker element. Also, if the excessive power input continues for a long period of time, the circuitry may not be capable of resetting to its original condition. Use the system with care so that the speakers are not exposed to excessive power input.

2. GENERAL DESCRIPTION

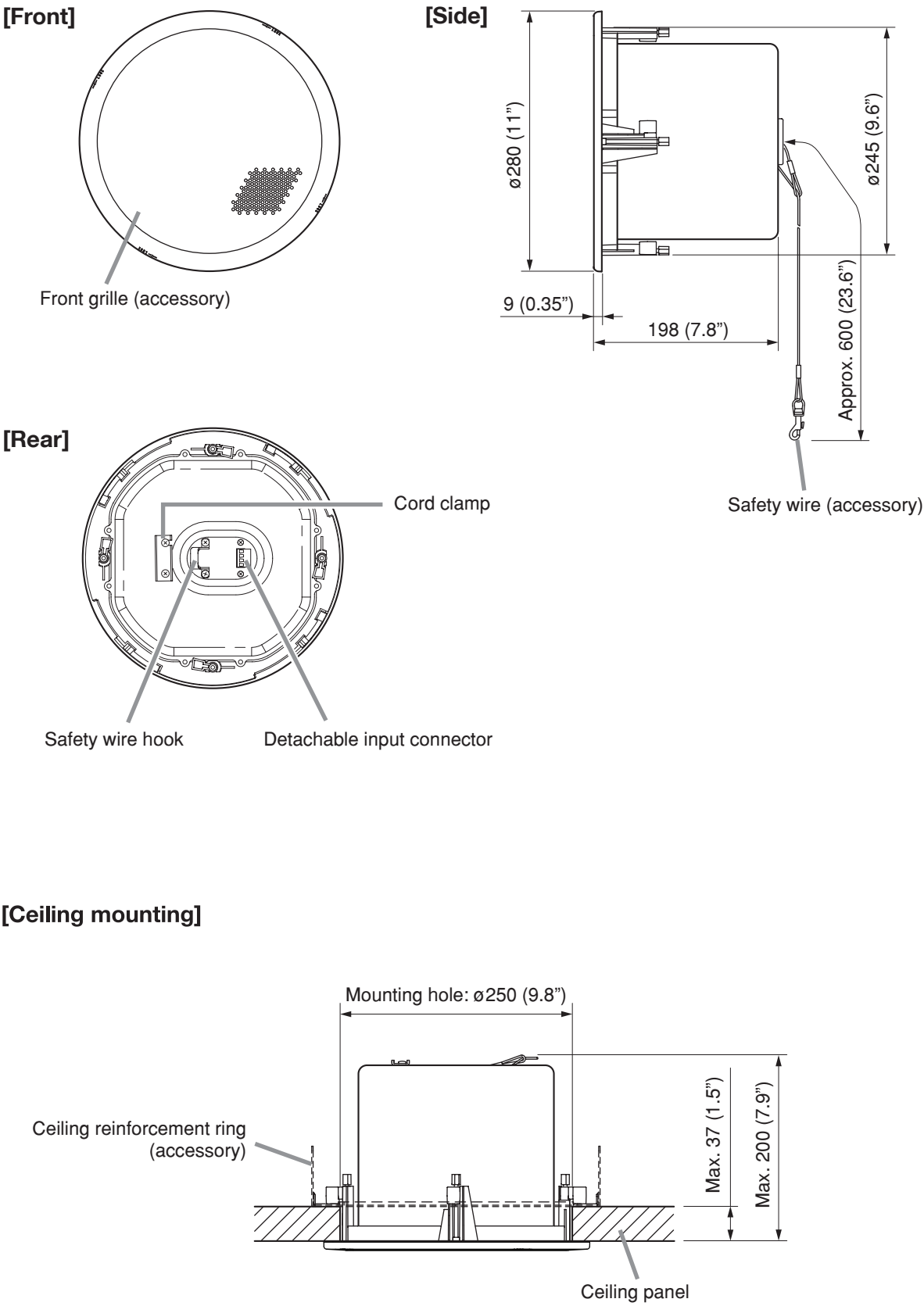
The FB-2862C is a vented speaker, flush-mounted ceiling subwoofer that offers a low frequency range and high-quality sound output. Use of its supplied and optional mounting hardware permits versatile mounting to match a wide range of applications and installation locations.

3. FEATURES

- Bass-reflex speaker system designed to provide low frequency range and high power handling capability. Ideal for locations that have high ceiling or require true-to-live sounds.
- Easy installations. can be quickly and accurately mounted to ceiling and walls.
- Rotating front grille can be installed quickly and conveniently.
- Attractive exterior design specially created by an interior designer blends naturally with any architectural space, enhancing the immediate area’s sense of harmony.
- Optional mounting hardware permits installation in weak ceiling panels.

4. NOMENCLATURE AND DIMENSIONS

Unit: mm (inches)

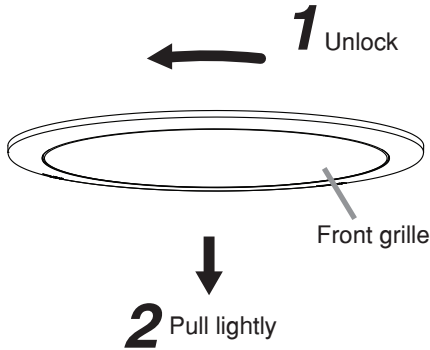


6. REMOVING THE SPEAKER FOR MAINTENANCE

6.1. Detaching the Front Grille

Turn the front grille counterclockwise to full stop, then pull it lightly downward.

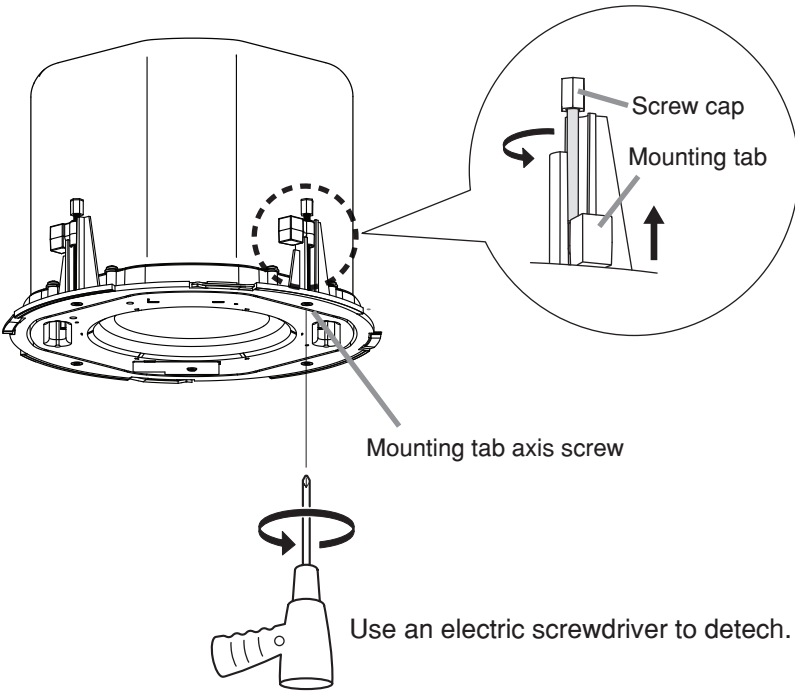
**Tip**  
The front grille employs a double-locking system. If the grille cannot be detached when lightly pulled downward, it likely has not yet been fully rotated back to the detachment position. In such cases, take care to rotate the grille fully counterclockwise in order to release the lock.



6.2. Removing the Speaker

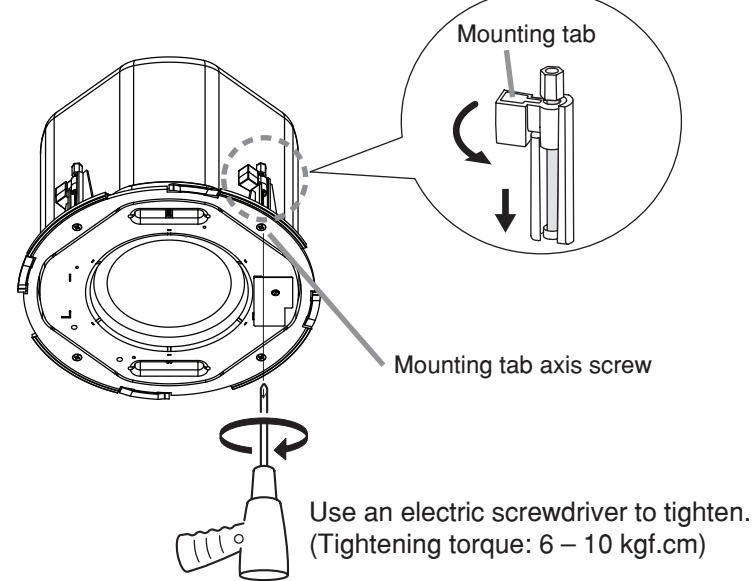
Rotate the 4 mounting tab axis screws counterclockwise. The mounting tabs rise as they turn, allowing the speaker to be removed.

**Caution**  
When loosening the mounting tab axis screws, support the speaker by hand to prevent it from falling.

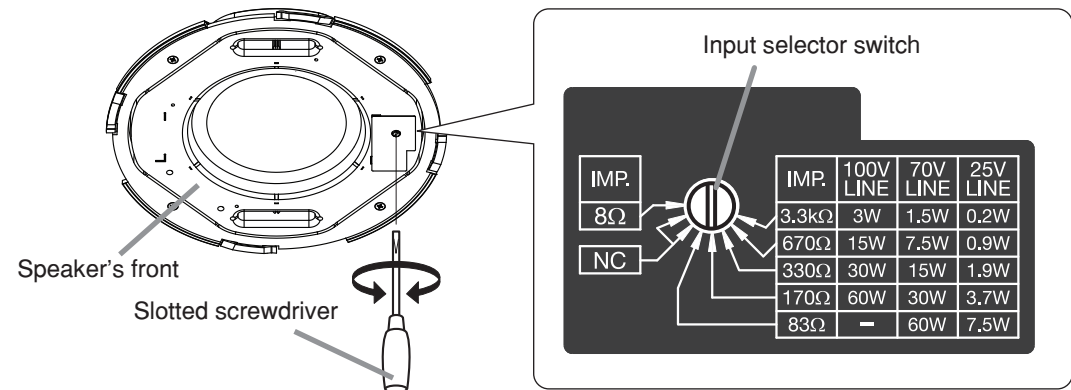


**Caution**  
Be sure to set the screwdriver's torque for under 4 kgf.cm. Failure to do so may the Screw cap and Mounting tab to fall off on the rear of ceiling panel.

6-2. Rotate and tighten the mounting tab axis screws (4 places) on the unit clockwise to their full stop in order to grip the ceiling panel with the mounting tabs.



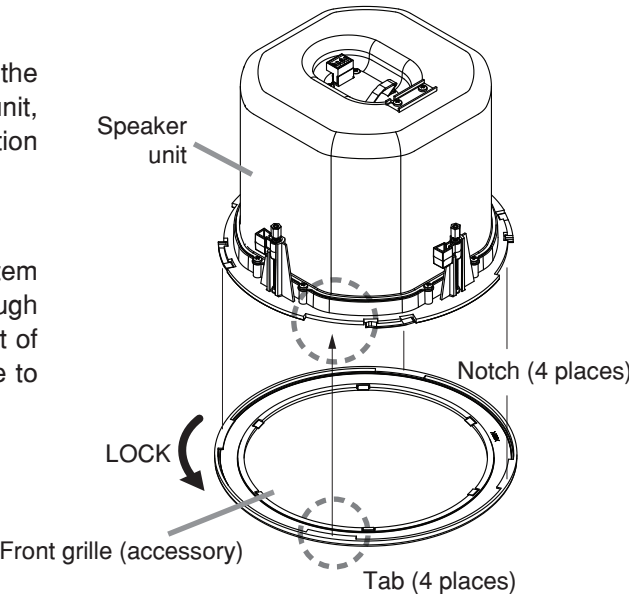
**Step 7.** Set the input power.  
Turn the input selector switch (on the unit's front) to set it to the desired input impedance using a slotted screwdriver.  
**Note:** The switch is factory-preset to 170 Ω.



**Important**  
Never set this switch to low impedance (8Ω) when using a high impedance 25, 70, 100 V line. Failure to follow this instruction could result in damage to the speaker or amplifier.

**Step 8.** Attach the front grille.  
Align the tabs (4 places) on the back side of the grille with the corresponding notches in the unit, then rotate the grille to full stop in the direction indicated by the "LOCK" arrow.

**Tip**  
The front grille employs a double-locking system that clicks into place once partway through rotation, but only locks into position at its point of full rotation. Always be sure to rotate the grille to its full stop.



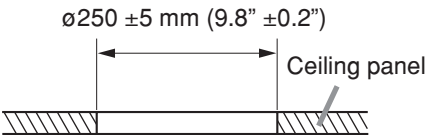
## 5. INSTALLATION

The FB-2862C ceiling subwoofer can be mounted in 3 different configurations:

- **Direct mounting to a ceiling panel**  
Use the supplied ceiling reinforcement ring.
- **Mounting to a ceiling frame**  
Use the supplied ceiling reinforcement ring in conjunction with the optional HY-TB1 Tile Bar Bridge.
- **Mounting to an anchor bolt**  
Use the supplied ceiling reinforcement ring in conjunction with the optional HY-AH1 Anchor Hanging Bracket.

Mount the speaker using the most appropriate method for the ceiling panel or installation location.

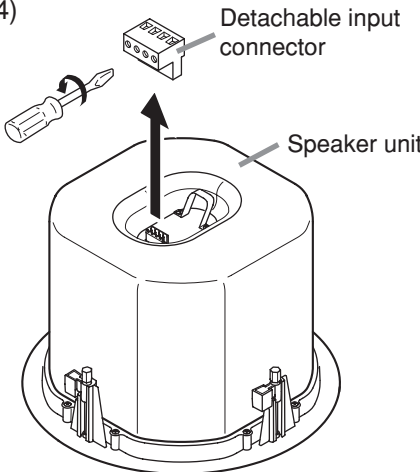
**Step 1.** Cut a ø250 mm (9.8") hole in the ceiling.  
Use the supplied paper pattern to position and trace the hole.



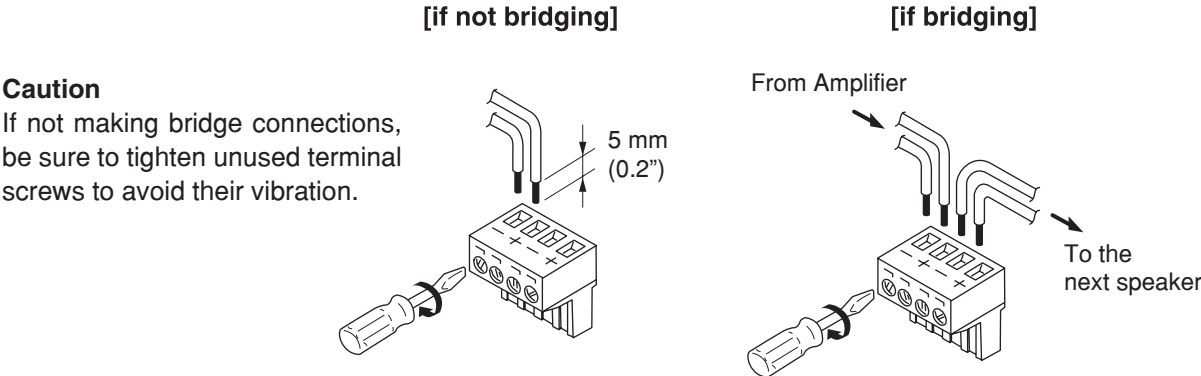
**Step 2.** Connect the speaker cable to the detachable input connector.

**Tip**  
The following matching cable types are recommended:  
Solid copper wire: ø0.5 – ø1.6 mm (equivalent to AWG 24 – 14)  
Stranded copper wire: 0.2 – 2.5 mm² (equivalent to 24 – 14)

2-1. Remove the detachable input connector from the speaker's wiring socket, and loosen the screw of the terminal to be used.



2-2. Insert the stripped cable end into the terminal and tighten the terminal screw with a screwdriver.



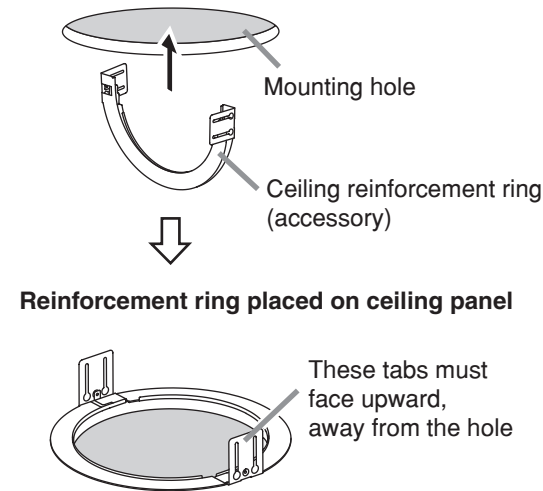


**Step 3. Install mounting hardware on the ceiling.**

**3-1. Direct mounting to a ceiling panel**

Fold the supplied ceiling reinforcement ring in half\* and insert it through the mounting hole in the ceiling panel, then open it with its tabs facing up. Place the ring on the ceiling panel aligning it with the mounting hole.

\* The reinforcement ring is too large to be inserted into the mounting hole unless folded.



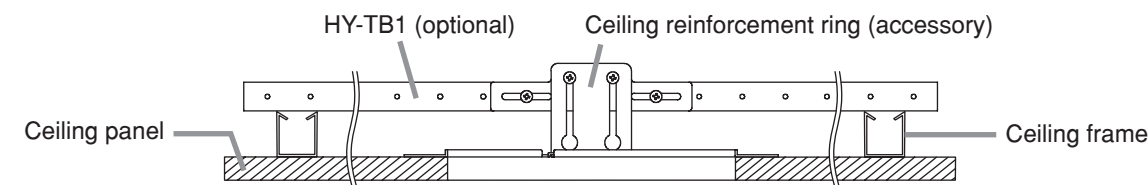
**3-2. Mounting to a ceiling frame**

Use the supplied ceiling reinforcement ring in conjunction with the optional HY-TB1 Tile Bar Bridge.

**Note**

Refer to the instruction manual included with the HY-TB1 for the correct ceiling mounting procedure.

**[Installed HY-TB1]**

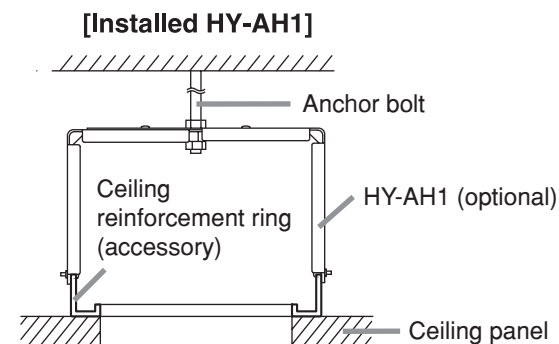


**3-2. Mounting to an anchor bolt**

Use the supplied ceiling reinforcement ring in conjunction with the optional HY-AH1 Anchor Hanging Bracket.

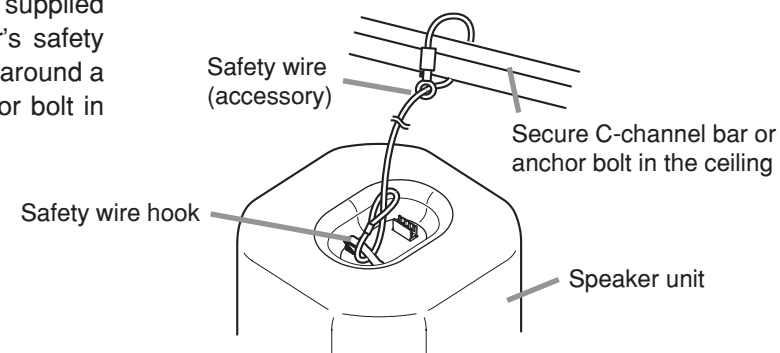
**Note**

Refer to the instruction manual included with the HY-AH1 for the correct mounting procedure.



**Step 4. Attach a safety wire to prevent the speaker from accidentally falling.**

To attach, tie one end of the supplied safety wire around the speaker's safety wire hook, and tie its snap ring around a secure C-channel bar or anchor bolt in the ceiling.

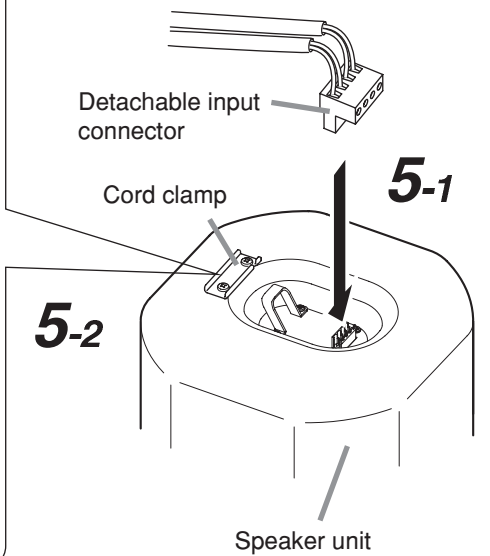
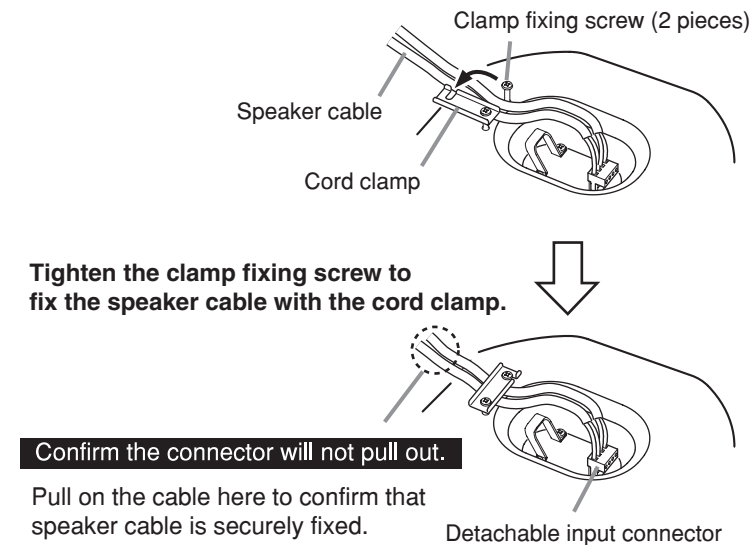


**Step 5. Make speaker cable connection.**

**5-1.** Plug the wired detachable input connector into the speaker's wiring socket.

**5-2.** Fix the speaker cable with the cord clamp.

**Loosen the cord clamp fixing screws and open the cord clamp. Then, pass the speaker cable between both screws.**

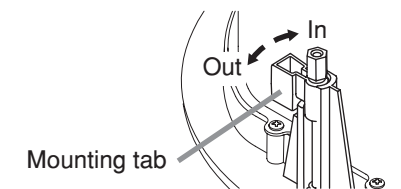


**Step 6. Mount the speaker.**

**Caution**

Before mounting, check to be sure that the speaker's 4 mounting tabs are turned inside the unit as shown in the figure.

If turned outward, the speaker cannot be inserted through the mounting hole.



**6-1.** Insert the speaker through the mounting hole till it contacts the ceiling panel.

While doing so, avoid directly touching the speaker's surface.

