TOA

INSTRUCTION MANUAL

CEILING SPEAKER SYSTEM F-2352SC

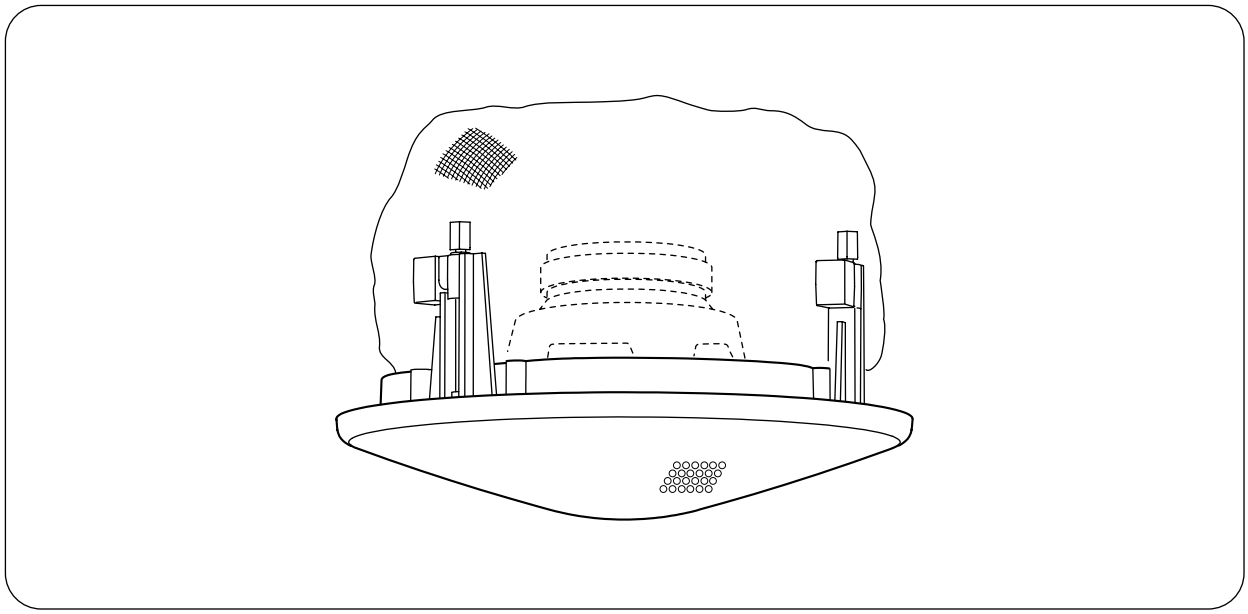


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Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

TOA Corporation

1. SAFETY PRECAUTIONS

- Be sure to read the instructions 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 installation 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.
- 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 hold the diffuser as a handle to carry the unit. If the diffuser breaks off, the unit falls off, resulting in possible personal injury.
- 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

⚠ CAUTION

- 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.
- 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.

2. GENERAL DESCRIPTION

The F-2352SC is a 2-way, flush-mounted ceiling speaker that offers a wide frequency range and high-quality sound output. Use of optional mounting hardware permits versatile mounting to match a wide range of applications and installation locations.

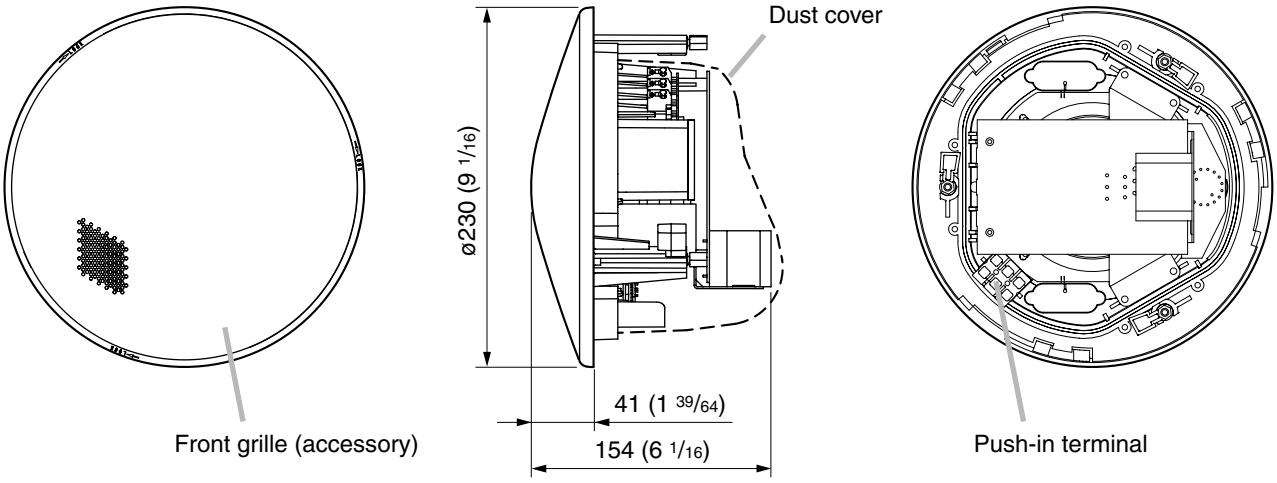
3. FEATURES

- A rear-open type 2-way speaker system employing a speaker element designed to provide a wide frequency range.
- Wide-dispersion flush-mount ceiling speaker design employs unique acoustic construction to realize a wide area of coverage. Uniform sound output levels are achievable not only directly under the speaker, but also over a wide radius.
- Because the speaker is provided with both low- and high-impedance operating capability, it can be used in many different applications. Front panel-mounted input selector switch permits easy verification and change of current impedance settings, even after installation.
- Easy installation. Can be quickly and accurately mounted to ceilings 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.
- Use of the optional HY-BC1 permits exposed speaker installation.

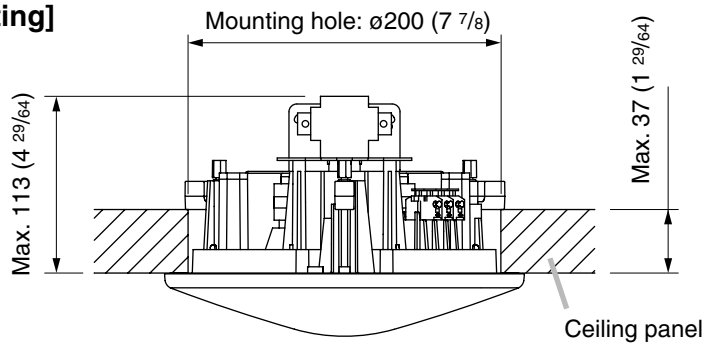
4. NOMENCLATURE AND DIMENSIONS

Unit: mm (inches)

[Front] **[Side]** **[Rear]**



[Ceiling mounting]



5. INSTALLATION

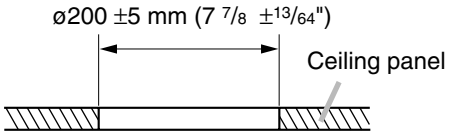
A dust cover is pre-mounted on the rear of the speaker at the factory.
Pay attention not to accidentally take it off during speaker installation.

The F-2352SC ceiling speaker can be mounted in 2 different configurations:

- **Direct mounting to a ceiling panel**
- **Hanging from a ceiling suspension pipe (exposed installation)**
  Use the optional HY-BC1 Back Can.

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

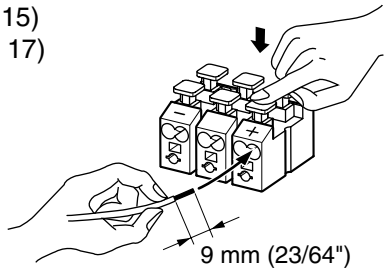
Step 1. Cut a ø200 mm (7 7/8") hole in the ceiling.
Use the supplied paper pattern to position and trace the hole.



Step 2. Connect the speaker cable to the push-in terminal.

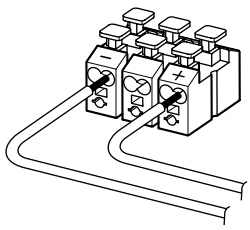
Tip
Use the 600 V vinyl-insulated cable (IV or HIV wire).
The following matching cable types are recommended:
- Solid copper wire: ø0.8 – ø1.6 mm (equivalent to AWG 20 – 15)
- Stranded copper wire: 0.75 – 1.25 mm² (equivalent to AWG 18 – 17)

Press fully down on the corresponding terminal button and insert the cable.

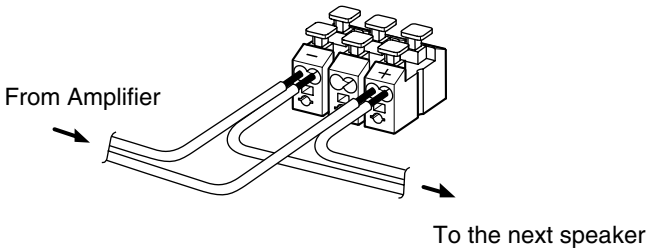


Caution
To detach the cable, press fully down on the terminal button again, then pull the cable.

[If not bridging]

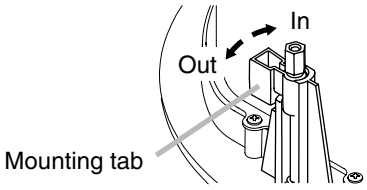


[If bridging]



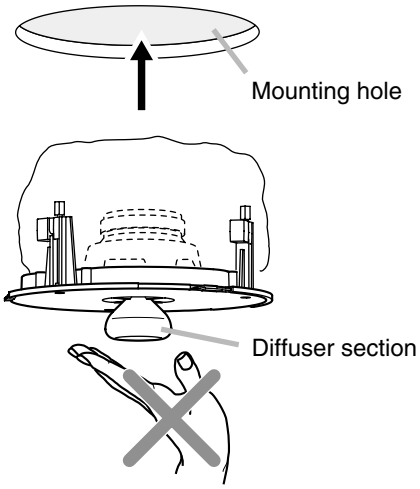
Step 3. Mount the speaker.

Caution
Before mounting, check to be sure that the speaker's 3 mounting tabs are turned inside the unit as shown in the figure.
If turned outward, the speaker cannot be inserted through the mounting hole.



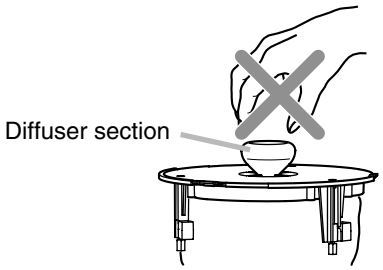
3-1. Direct mounting to a ceiling panel

Insert the speaker through the mounting hole till it contacts the ceiling panel. While doing so, avoid directly touching the speaker's diaphragm and diffuser section.

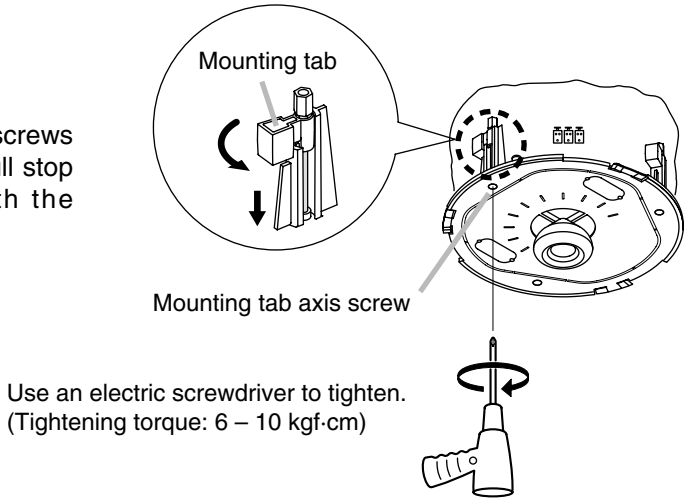


⚠ WARNING

Never grab the diffuser section as a hand hold. The speaker could fall due to damage, resulting in possible personal injury.

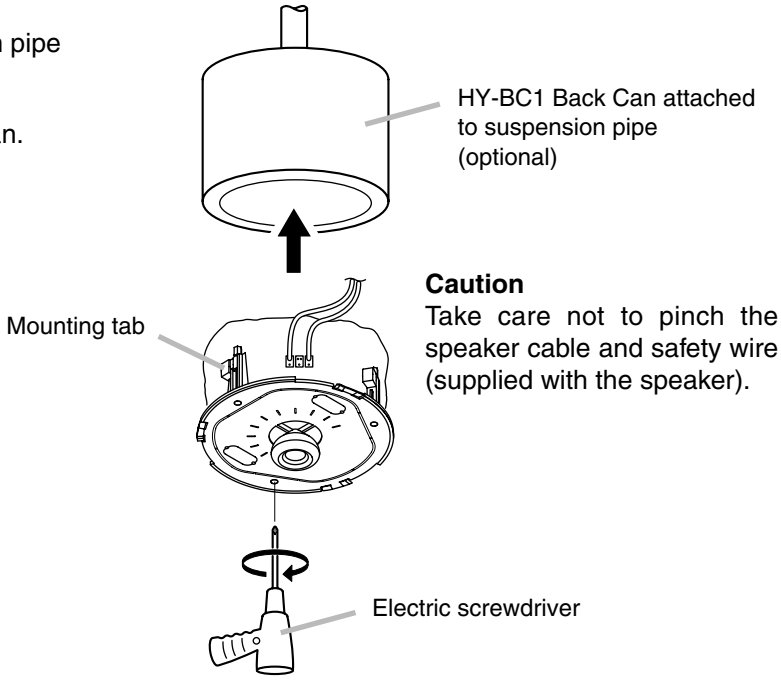


Rotate and tighten the mounting tab axis screws (3 places) on the unit clockwise to their full stop in order to grip the ceiling panel with the mounting tabs.



3-2. Hanging from a ceiling suspension pipe (exposed installation)

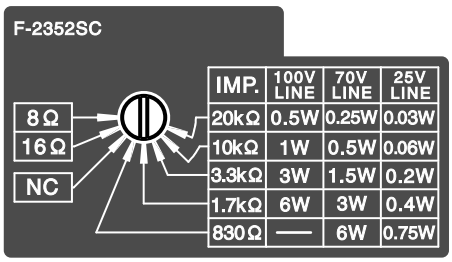
Use the optional HY-BC1 Back Can.
To mount, follow Step 3-1.



Caution
Take care not to pinch the speaker cable and safety wire (supplied with the speaker).

Step 4. Set the input power.

Turn the input selector switch (on the unit's front) to set it to the desired input impedance. (Factory-preset to 1.7 kΩ.)



Important

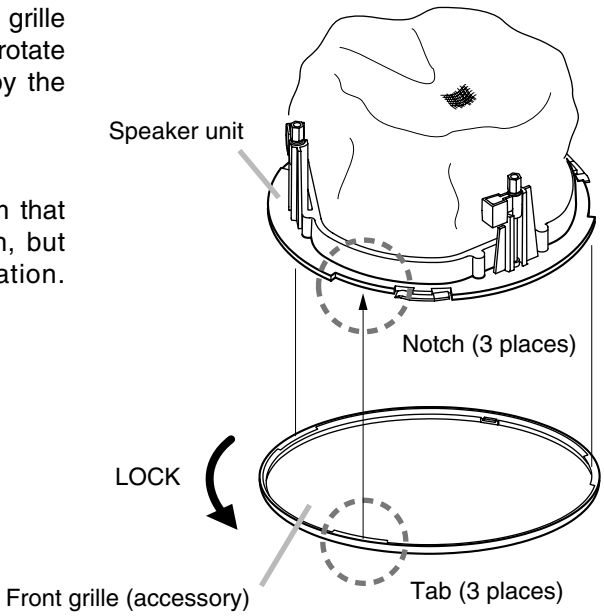
Never set this switch to low-impedance (8 Ω or 16 Ω) settings when using a high-impedance 25, 70, or 100 V line. Failure to follow this instruction could result in damage to the speaker or amplifier.

Step 5. Attach the front grille.

Align the tabs (3 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.



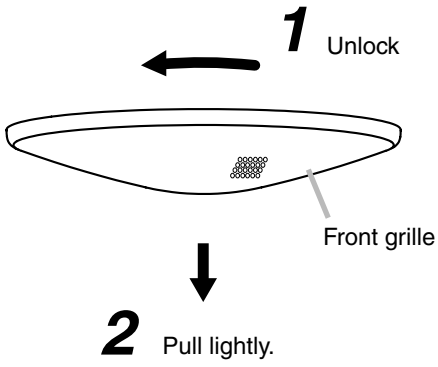
6. REMOVING THE SPEAKER FOR MAINTENANCE

6.1. Detaching the Front Grille

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

Tip

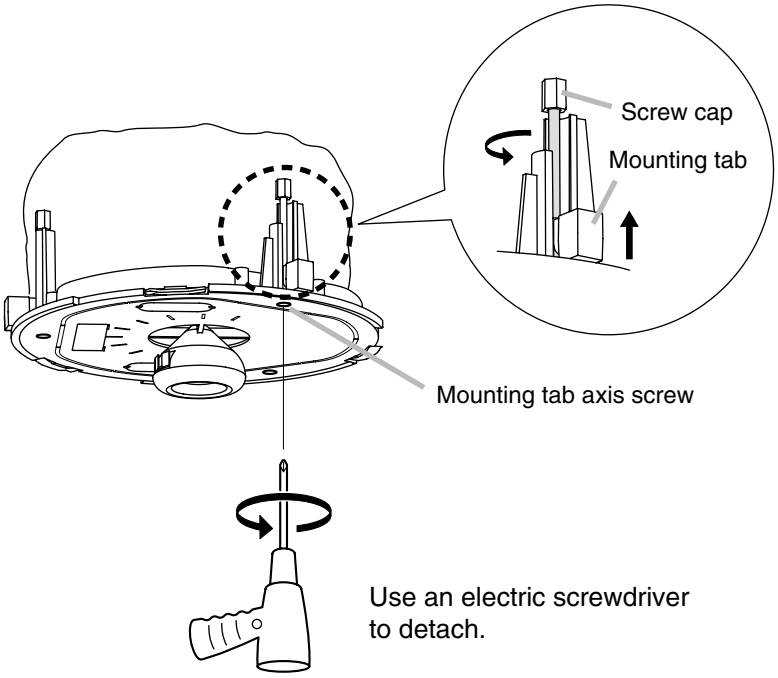
The front grille employs a double-locking system.
If the grille cannot be detached when lightly pulled downward, it likely has not yet been fully rotated back to the detachment position. In such cases, take care to rotate the grill fully counterclockwise in order to release the lock.



6.2. Removing the Speaker

Rotate the 3 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 cause the Screw cap and the Mounting tab to fall off on the rear of ceiling panel.

7. REPAINTING THE SPEAKER

Follow the procedure below when repainting the front grille:

Step 1. Clean the front grille before painting.
Wipe with a soft cloth dampened in a detergent.

Caution
Do not use thinner or other volatile liquids to clean the grille.

Step 2. Spray on a uniform, thin coat of paint.

Cautions
- Avoid painting with a roller or brush, as the grille mesh holes could become clogged with paint.
- Use appropriate spray paints for the front grille (grille and frame) materials.
  Grille: Rolled steel plate
  Frame: Fire-resistant ABS resin (acrylic paint)
- Be sure to follow the directions indicated on the paint when painting.

Step 3. After the paint has dried, apply another light coat.

Caution
Repeating Step 2, apply two or more light coats of paint.
Application of one thick coat of paint all at once may cause drips or unevenness to show up in the painted finish, or clog the mesh holes.

8. SPECIFICATIONS

Rated Input	6 W (High Impedance)
Power Handling Capacity	Continuous pink noise: 9 W (8 Ω), 6 W (16 Ω) Continuous program: 18 W (8 Ω), 12 W (16 Ω)
Impedance	100 V line: 1.7 kΩ (6 W), 3.3 kΩ (3 W), 10 kΩ (1 W), 20 kΩ (0.5 W) 70 V line: 830 Ω (6 W), 1.7 kΩ (3 W), 3.3 kΩ (1.5 W), 10 kΩ (0.5 W), 20 kΩ (0.25 W) 25 V line: 830 Ω (0.75 W), 1.7 kΩ (0.4 W), 3.3 kΩ (0.2 W), 10 kΩ (0.06 W), 20 kΩ (0.03 W) 16 Ω, 8 Ω
Sound Pressure Level	89 dB (1 W, 1 m)
Frequency Response	80 – 20,000 Hz (–10 dB), 50 – 20,000 Hz (–20 dB) at installation in 1/2 free sound field (Measured by installing the unit in the center of a ceiling.)
Speaker Component	High frequency: Baranced dome-type Low frquency: 12 cm (5") cone-type
Mounting Hole	ø200 (7 7/8") Maximum ceiling thickness: 37 mm (1 29/64")
Input Terminal	Push-in connector (Bridging terminal-2 branch type)
Usable Cable	600 V vinyl-insulated cable (IV wire or HIV wire) Solid copper wire: ø0.8 – ø1.6 mm (equivalent to AWG 20 – 15) Stranded copper wire: 0.75 – 1.25 mm^2 (equivalent to AWG 18 – 17)
Finish	Baffle: Fire-resistant ABS resin (resin material grade: UL-94 V-0 or its equivalent), black Rim: Fire-resistant ABS resin (resin material grade: UL-94 V-0 or its equivalent), white, paint Punched net: Steel plate, white, paint Dust cover: Artificial fiber, black
Dimensions	ø230 (9 1/16")x Depth 154 mm (6 1/16")
Weight	1.5 kg (including front grille)

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

• Accessories

Front grille 1
Paper pattern 1

• Optional Component

HY-BC1 (Back Can): Use this Back Can when mounting the speaker unit in exposed hanging applications.

TOA Corporation

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