

# CEILING MOUNT SPEAKERS

**PC-1869    PC-2852**  
**PC-2369    PC-2869**

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

## 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.

### **WARNING**

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

- 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.
- Do not use other methods than specified to mount the bracket. Extreme force is applied to the unit and the unit could fall off, possibly resulting in personal injuries.

## 3. SPECIFICATIONS

Model No.	PC-1869	PC-2369	PC-2869	PC-2852
Rated Input	6 W (100 V line), 3 W (70 V line)			15 W (100 V, 70 V line)
Rated Impedance	100 V line	1.7 kΩ (6 W), 3.3 kΩ (3 W), 6.7 kΩ (1.5 W), 13 kΩ (0.8 W)		670 Ω (15 W), 1 kΩ (10 W), 2 kΩ (5 W), 3.3 kΩ (3 W)
	70 V line	1.7 kΩ (3 W), 3.3 kΩ (1.5 W), 6.7 kΩ (0.8 W), 13 kΩ (0.4 W)		330 Ω (15 W), 670 Ω (7.5 W), 1 kΩ (5 W), 2 kΩ (2.5 W), 3.3 kΩ (1.5 W)
Sensitivity (500 – 5,000 Hz, pink noise)	90 dB (1 W, 1 m)	93 dB (1 W, 1 m)	94 dB (1 W, 1 m)	96 dB (1 W, 1 m)
Frequency Response	55 – 18,000 Hz (at 20 dB below peak)	45 – 20,000 Hz (at 20 dB below peak)	40 – 20,000 Hz (at 20 dB below peak)	45 – 20,000 Hz (at 20 dB below peak)
Speaker Component	12 cm (5") cone type	16 cm (6") double cone type	20 cm (8") double cone type	20 cm (8") coaxial cone type
Dimensions for Fixing Hole	ø150 ±3 mm (5.91" ±0.12")	ø200 ±3 mm (7.87" ±0.12")	ø250 ±3 mm (9.84" ±0.12")	
Ceiling Thickness for Mounting	5 – 25 mm (0.2" – 0.98")			
Speaker Mounting Method	Spring clamp			
Application Cable	600 V vinyl-insulated cable (IV wire or HIV wire) Solid wire: ø0.8 – ø1.6 mm (equivalent to AWG 20 – 14) 7-core twisted wire: 0.75 – 1.25 mm <sup>2</sup> (equivalent to AWG 18 – 16)			
Connection	Push-in connector (bridging terminal-2 branch type)			
Finish	Baffle: Steel plate, off white (RAL 9010 or equivalent color), paint Grille: Surface-treated steel plate net, off white (RAL 9010 or equivalent color), paint			
Dimensions	ø180 x 72 (d) mm (ø7.09" x 2.83")	ø230 x 79 (d) mm (ø9.06" x 3.11")	ø280 x 92 (d) mm (ø11.02" x 3.62")	
Weight	620 g (1.37 lb)	760 g (1.68 lb)	1.4 kg (3.09 lb)	1.6 kg (3.53 lb)
Accessory	Paper pattern ..... 1			

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

### **CAUTION**

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

- Avoid touching the unit's sharp metal edge to prevent injury.
- To avoid electric shocks, be sure to switch off the amplifier's power when connecting speakers.
- 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.

#### Traceability Information for Europe (EMC directive 2004/108/EC)

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

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

## 2. GENERAL DESCRIPTION

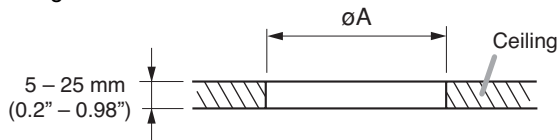
Integrated with a speaker unit and panel, the PC-1869, PC-2369, PC-2852, and PC-2869 Ceiling Mount Speakers are of all metallic construction and ideal for use in a voice alarm system. They feature spring clamp mechanism for easy speaker mounting to the ceiling.

The input impedance can be easily changed by changing the tap position of the transformer.

The push-in type input terminal block makes cable connections easy and allows bridge wiring.

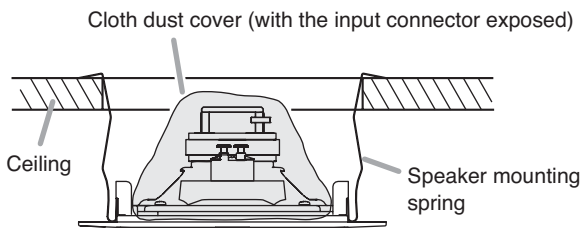
## 4. INSTALLATION

**Step 1.** Using the supplied paper pattern as a guide, open a mounting hole of the dimension specified below in the ceiling.



Model No.	$\phi A$
PC-1869	$\phi 150 \pm 3 \text{ mm } (\phi 5.91" \pm 0.12")$
PC-2369	$\phi 200 \pm 3 \text{ mm } (\phi 7.87" \pm 0.12")$
PC-2852/2869	$\phi 250 \pm 3 \text{ mm } (\phi 9.84" \pm 0.12")$

**Step 2.** Hook the speaker mounting spring into the mounting hole in the ceiling.

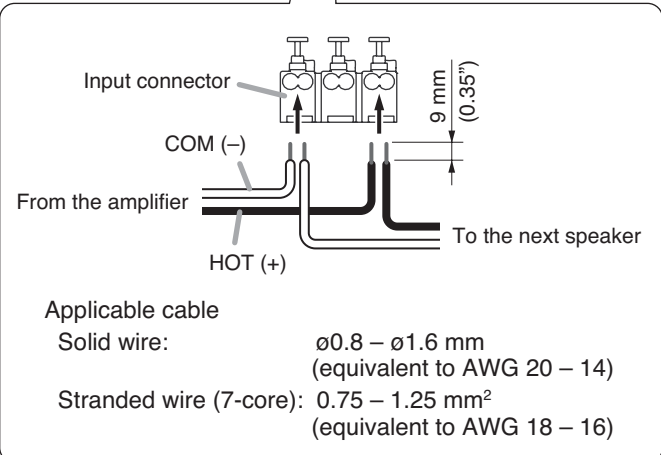
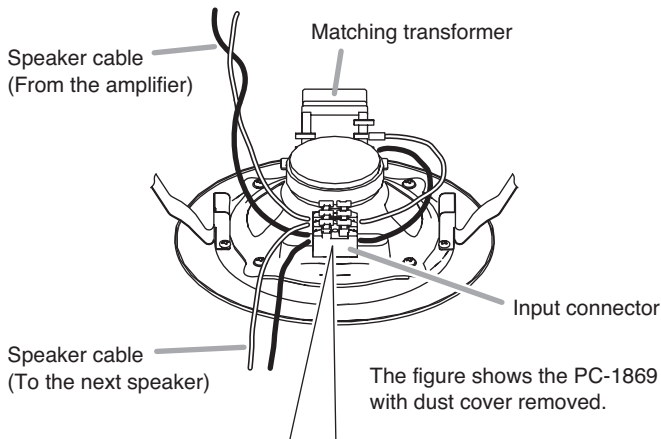


The figure shows PC-1869.

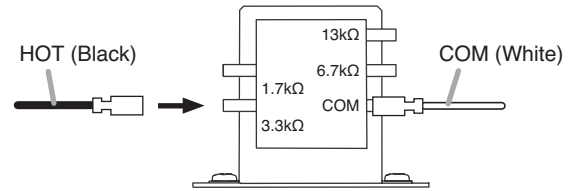
**Step 3.** Make wiring.

**3-1.** Insert the lead-in cables (cables from the amplifier) and lead-out cables (cables to other speakers) into the input connector.

[When making a bridge connection]



**3-2.** Change the input impedance as needed. The speaker's input is factory-preset to 1.7 k $\Omega$  (PC-1869, PC-2369 and PC-2869) or 670  $\Omega$  (PC-2852). When changing the input impedance, detach the black wire connected to the matching transformer, and reinsert it into the desired input tap referring to the tables below.



The figure shows the matching transformer of PC-1869/2369/2869.

[PC-1869/2369/2869]

Impedance	1.7 k $\Omega$	3.3 k $\Omega$	6.7 k $\Omega$	13 k $\Omega$
100 V line	6 W	3 W	1.5 W	0.8 W
70 V line	3 W	1.5 W	0.8 W	0.4 W

[PC-2852]

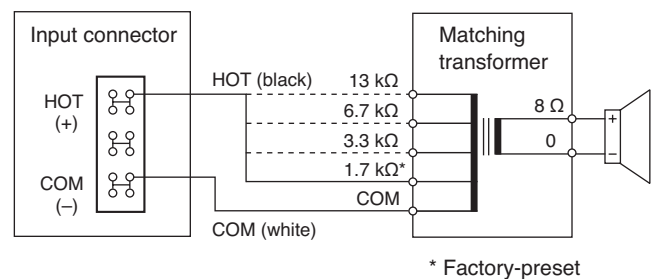
Impedance	330 $\Omega$	670 $\Omega$	1 k $\Omega$	2 k $\Omega$	3.3 k $\Omega$
100 V line	<del>15 W</del>	15 W	10 W	5 W	3 W
70 V line	15 W	7.5 W	5 W	2.5 W	1.5 W

Never connect to the 330  $\Omega$  tap in a 100V line system, as excessive input power is applied to the speaker, possibly resulting in damage.

**Step 4.** Push the panel surface into the mounting hole.

## 5. WIRING DIAGRAMS

### 5.1. PC-1869/2369/2869



### 5.2. PC-2852

