TOA

INSTRUCTION MANUAL

WALL MOUNT SPEAKERS

BS-678BSB
BS-678BSW

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

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.

⚠ WARNING

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

When Installing the Unit

- Refer all installation work to the dealer from whom the speaker was purchased. Installation work requires extensive technical knowledge and experience. The speaker may fall off if incorrectly installed, resulting in possible personal injury.
- Install the speaker only in a location that can structurally support the full weight of the unit and mounting bracket. Doing otherwise may result in the speaker falling down and causing personal injury and/or property damage.
- Since the unit is designed for in-door 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.
- Do not use other methods than specified to install the speaker. Extreme force is applied to the speaker and the speaker could fall off, possibly resulting in personal injuries.
- Use screws that are appropriate for the wall's material and structure. Failure to do so may cause the speaker to fall, resulting in material damage and possible personal injury.
- Ensure that all screws are securely tightened. If they are loose after installation, the speaker could fall down, possibly resulting in personal injury.
- Do not mount the speaker in locations exposed to constant vibration. The speaker or its mounts can

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

be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.

- Do not use anti-rust lubricant. If it contacts resin or rubber parts, they could deteriorate and cause the speaker to fall, possibly resulting in personal injury.
- Do not install the speaker in indoor swimming pools or such locations where liquid chemicals are used. The parts deteriorate if corroded, causing the speaker to fall, which could result in personal injury.

When the Unit is in Use

- If any of the following irregularities occurs, immediately switch off the amplifier's power, and inform the shop from where the speaker was purchased. Further using the speaker may result in fire or electric shock.
  - · If you detect smoke or a strange smell coming from the speaker
  - · If water or any metallic object gets into the speaker
  - · If the speaker falls, or the speaker case breaks
- To prevent a fire or electric shock, never open nor remove the speaker case. Refer all servicing to your nearest TOA dealer.

⚠ 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

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

When the Unit is in Use

- Do not operate the speaker for an extended period of time with the sound distorting. Doing so may cause the speaker to heat, resulting in a fire.
- Do not stand or sit on, nor hang down from the speaker as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the speaker checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the speaker or the mounts that could cause it to fall, possibly causing personal injury.

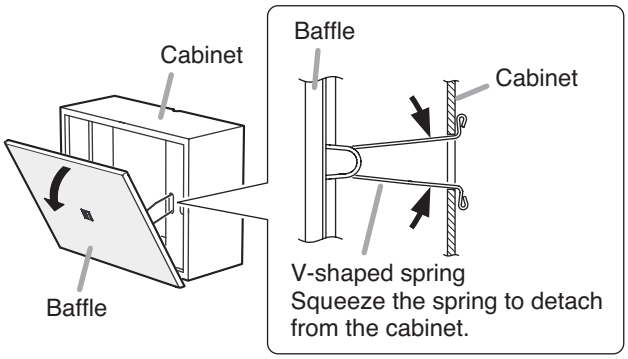
2. GENERAL DESCRIPTION AND FEATURES

The BS-678BSB and BS-678BSW are certified according to the European Standard EN 54-24: 2008, the International Standard ISO 7240-24: 2010 and compliant with the British Standard BS 5839-8: 2008 14-8.

- The BS-678BSB and BS-678BSW, of which cabinet is made of wood, can be installed in a vertical or horizontal orientation.
- Either concealed in-wall wiring or open wiring can be used for speaker cable connection.
- The speaker structure that permits direct wall-mounting with screws prevents the speaker from falling easily even if an outward force is applied to.
- The input impedance can be easily changed by changing the tap position of the transformer.
- A 6.5-inch cone speaker unit delivers high quality sound.
- Two screw terminals (steatite) make cable connections easy and allow bridge wiring.

3. INSTALLATION

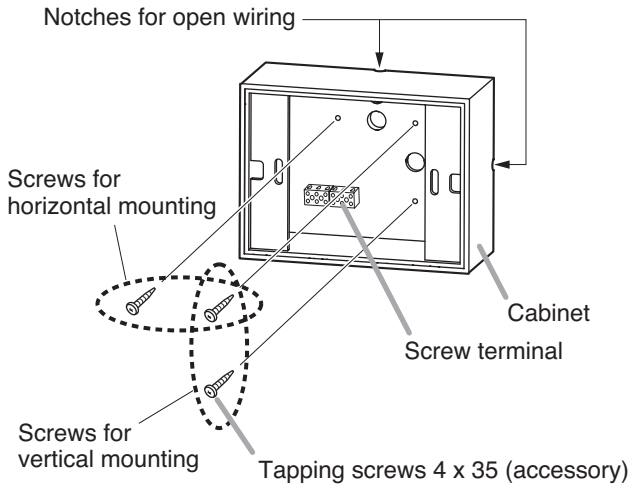
Step 1. Pull out the baffle, and unlatch 2 V-shaped springs to detach the baffle from the cabinet.



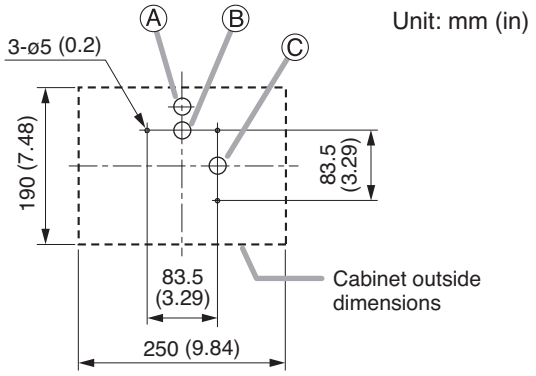
Step 2. Install the cabinet to the wall using the supplied tapping screws 4 x 35. In this case, route the cables from a cable entry hole.

Notes

- If the supplied tapping screws are not appropriate for the construction of wall, separately prepare the appropriate screws.
- The speaker can be installed in a vertical or horizontal orientation. Either concealed in-wall wiring or open wiring is available for speaker cable connection.



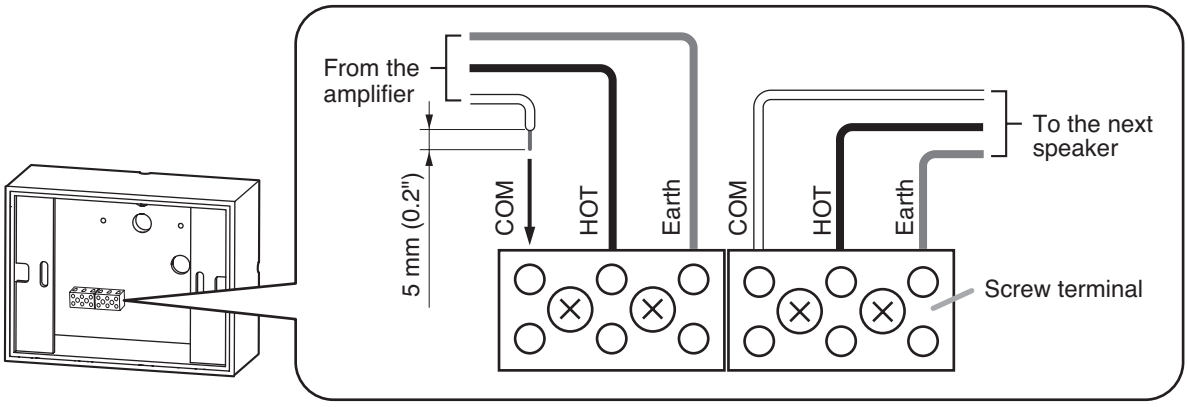
[Cabinet mounting dimensions]



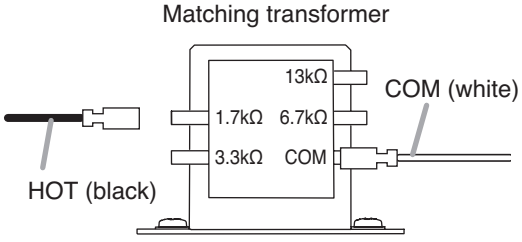
Ⓐ Cable entry hole
(for open wiring at horizontal mounting)
Ⓑ Cable entry hole
(for concealed wiring at horizontal mounting)
Ⓒ Cable entry hole
(for concealed and open wirings at vertical mounting)

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 screw terminals attached to the cabinet.

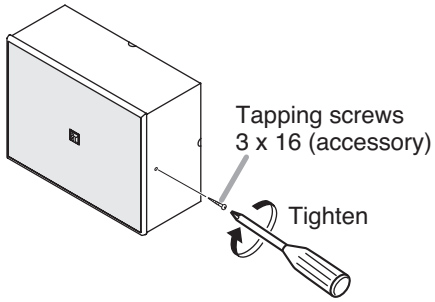


3-2. Insert the fasten s fitted at the ends of the HOT and COM cables from the screw terminals on the cabinet into the taps of the matching transformer on the speaker unit.
Connect the COM cable to the transformer's COM tap, and the HOT cable to the desired transformer's input tap (Refer to the figure at right.)
The table at right shows the relationship between impedance and input power.

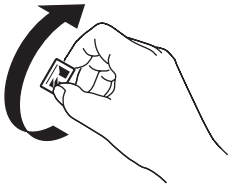


Impedance	1.7 kΩ	3.3 kΩ	6.7 kΩ	13 kΩ
100 V line	6 W	3 W	1.5 W	0.8 W
70 V line	3 W	1.5 W	0.8 W	0.4 W

Step 4. Hook 2 V-shaped springs attached to the baffle into the slotted holes of the cabinet, push the baffle onto the cabinet, then fix the supplied tapping screws 3 x 16 on both sides.

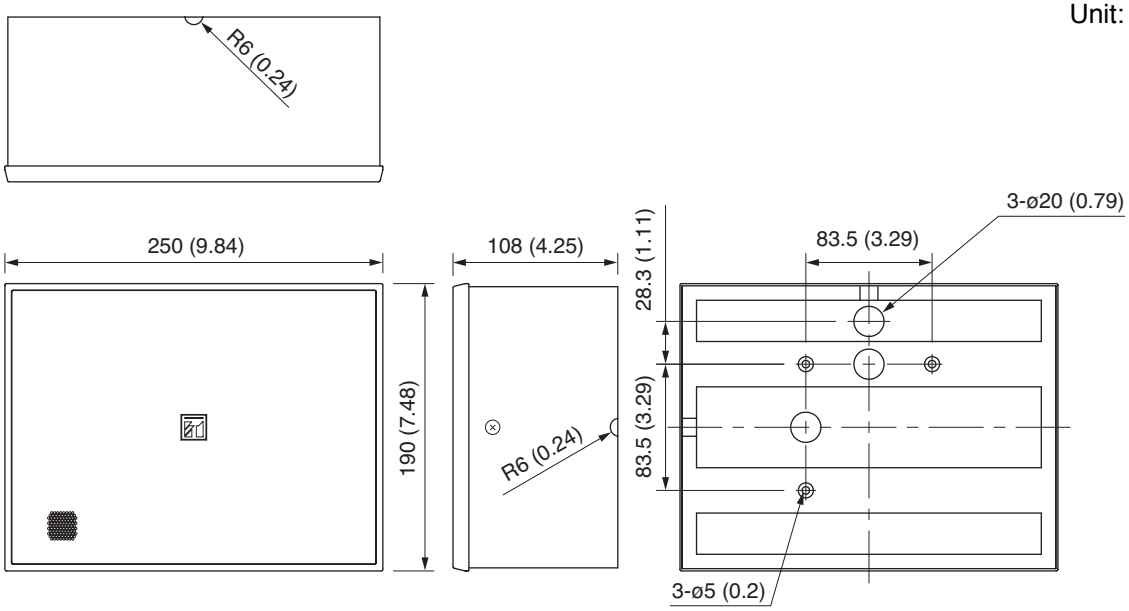


Note
When the speaker mounting orientation is vertical, pinch and rotate the logo mark on the baffle into the right position.

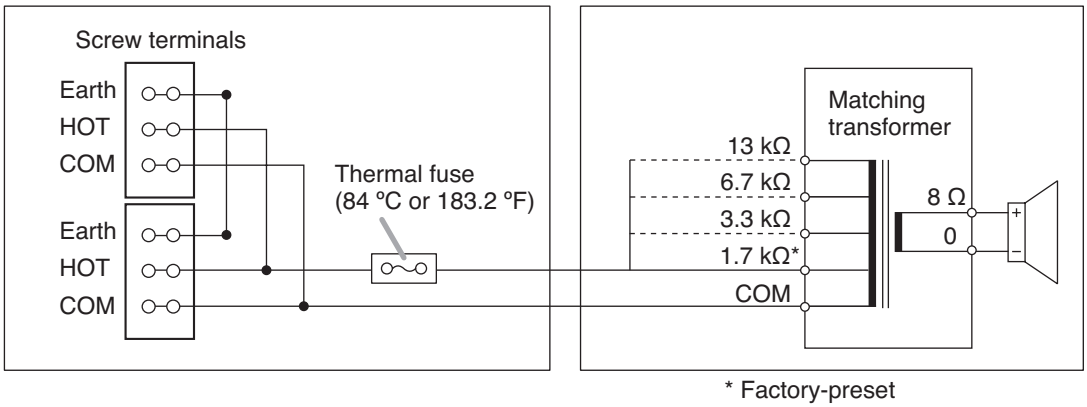


4. DIMENSIONAL DIAGRAM

Unit: mm (in)

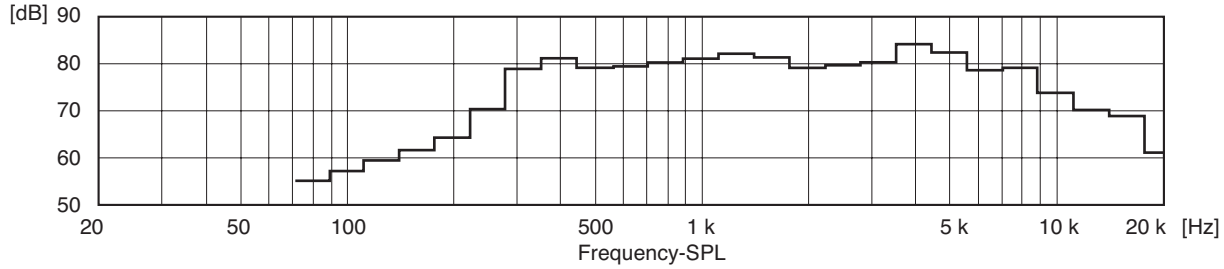


5. WIRING DIAGRAM



* Factory-preset

6. FREQUENCY RESPONSE (1 W, 4 m)



7. SPECIFICATIONS

Model		BS-678BSB	BS-678BSW
Standards		Certified to the European Standard EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems CE 0359 EN 54-24 11 0359-CPD-0103	
		Certified to the International Standard ISO 7240-24: 2010 Sound-system loudspeaker for fire detection and fire alarm systems	
		In compliance with the British Standard BS-5839-8: 2008 14.8	
Environment Type		Type A	
Rated Noise Power		6 W (100 V line), 3 W (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) 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)	
Sensitivity		94 dB (1 W, 1 m, 500 Hz to 5 kHz pink noise)	
		92 dB (1 W, 1 m, 100 Hz to 10 kHz pink noise) 80 dB (1 W, 4 m, 100 Hz to 10 kHz pink noise)	
Max. SPL		98 dB (6 W, 1 m, 100 Hz to 10 kHz pink noise) 86 dB (6 W, 4 m, 100 Hz to 10 kHz pink noise)	
Frequency Response		150 Hz – 18 kHz	
Coverage Angle (–6 dB)		Horizontal: 360° (500 Hz), 135° (1 kHz), 130° (2 kHz), 70° (4 kHz) Vertical: 330° (500 Hz), 160° (1 kHz), 135° (2 kHz), 70° (4 kHz)	
Speaker Component		16 cm (6.5") cone	
Cable Connection		Screw terminal (steatite)	
Applicable Cable Size		Conductor: Solid wire or 7-core wire 0.8 – 7 mm² (AWG18 – 9) for solid wire, 0.8 – 4 mm² (AWG18 – 11) for 7-core wire	
Finish	Baffle	HIPS, black (RAL 9011 or equivalent color)	HIPS, off white (RAL 9010 or equivalent color)
	Cabinet	Particle board with PVC sheet, black (RAL 9011 or equivalent color)	Particle board with PVC sheet, off white (RAL 9010 or equivalent color)
	Grill	Surface-treated steel plate net, black (RAL 9011 or equivalent color)	Surface-treated steel plate net, off white (RAL 9010 or equivalent color)
Dimensions		250 (w) x 190 (h) x 108 (d) mm (9.84" x 7.48" x 4.25")	
Weight		1.7 kg (3.75 lb)	
Accessories		Tapping screw 4 x 35 ..... 2, Tapping screw 3 x 16 2	

Notes

- The design and specifications are subject to change without notice for improvement.
- The Specifications data was measured in an anechoic chamber, according to EN 54-24.
- Reference axis: Axis is on the center of grill surface and perpendicular to the grill surface.
- Reference plane: Plane is on the grill surface and perpendicular to the reference axis.
- Horizontal plane: Plane is containing the reference axis and perpendicular to the reference plane.