

# BI-DIRECTIONAL PROJECTION PJ-202DL-EB SPEAKER

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

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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.

### **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 the 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 ceiling's or 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 be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.

#### 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

- 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 shock, 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 PJ-202DL-EB is certified according to the European Standard EN 54-24: 2008, and compliant with the British Standard BS 5839-8: 2008 14.8. The PJ-202DL-EB is a bidirectional projection speaker designed for wall or ceiling installation in indoor and outdoor applications.

It features

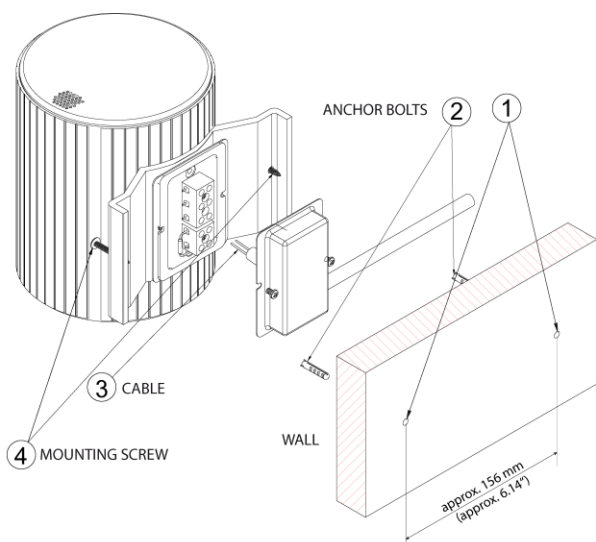
- 2 x 5" cone speaker + HC
- Ceramic Screw Terminal
- Rugged bracket included
- Aluminium alloy cabinet and grille
- Water proof according IP 44
- An extreme wide temperature range: -25°C to +70°C
- EN 54-24 certified + BS 5839 Part 8

#### Note

Never dismantle the PJ-202DL-EB in any way even for repainting reason. Since the PJ-202DL-EB is certified in the form of complete assembly by the above-mentioned standards, it does not meet these standards if dismantled.

The input power (impedance) is factory-preset to 20 W (500 Ω) for 100 V line.

### 3. INSTALLATION



**Step 1.** Drill two holes in the wall or in the ceiling fitting with the anchor bolts supplied with the speaker.

**Note**

If the screws and anchor bolts are not appropriate for the ceiling material, separately prepare the proper screws.

**Step 2.** Insert the anchor bolts into the holes.

**Step 3.** Connect the cables.

**3-1.** Loosen the two screws of the protection cover with a Phillips screwdriver and remove the cover.

**3-2.** Run the amplifier cable through the cable gland(s).

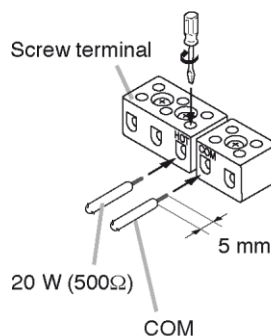
**3-3.** Strip the amplifier cable jacket as shown below

**3-4.** Insert one cable end into the screw terminal according to the required tapping and the other to the COM terminal and fasten the screws.

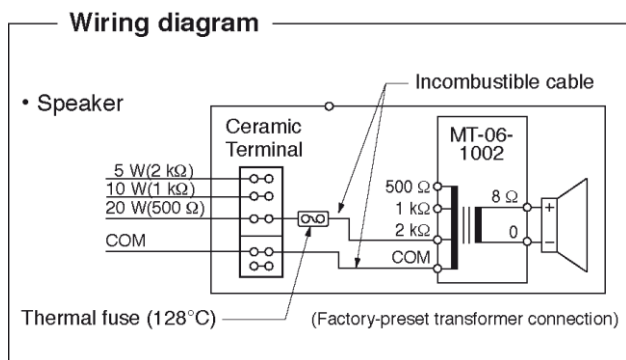
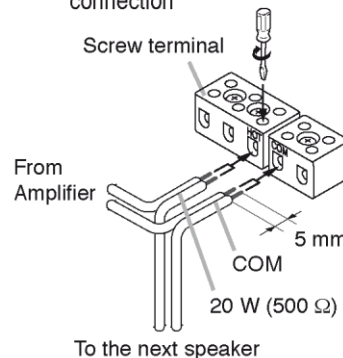
Impedance	500 Ω	1 kΩ	2 kΩ
100 V line	20 W	10 W	5 W

**[PJ-202DL-EB terminal block (500 Ω use)]**

• When no bridge connection is made



• When making a bridge connection



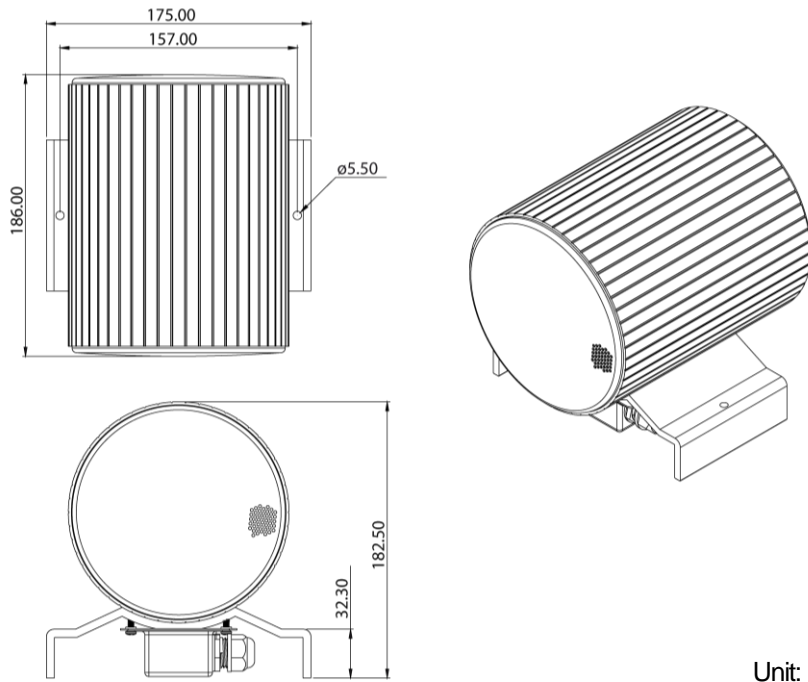
**3-5.** Close the protection cover after finishing the connection and fix it with the 2 screws.

**Step 4.** Screw the speaker bracket to the ceiling or to the wall.

**Note**

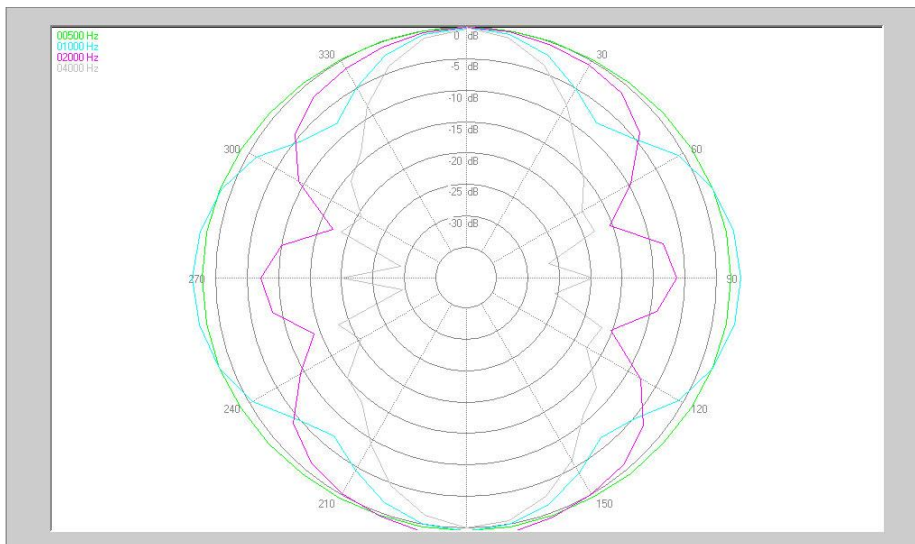
Each two screws and anchor bolts for mounting are supplied. Use screws that are appropriate for the ceiling's or wall's material and structure.

## 4. DIMENSIONAL DIAGRAM

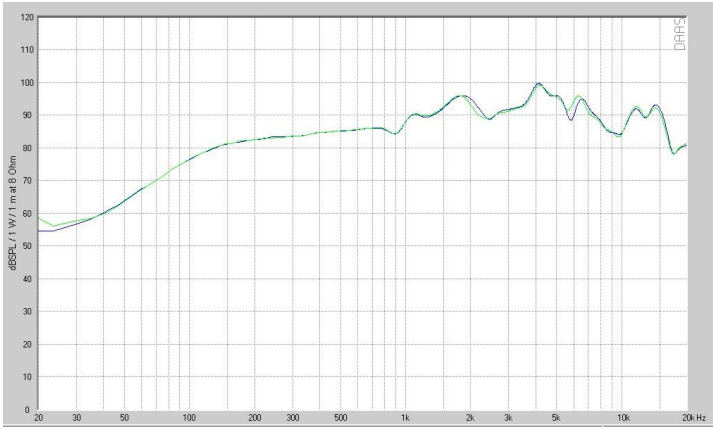


Unit: mm (in)

## 5. POLAR PATTERN



## 6. FREQUENCY RESPONSE (1 W, 1 m)



## 7. SPECIFICATIONS

Model	PJ-202DL-EB	
Standards	Certified to the European Standard EN 54-24: 2008 Loudspeaker for voice alarm systems for fire detection and fire alarm systems	EN 54-24 Certificate 1488/CPD/0338/W
	In compliance with the British Standard BS-5839-8: 2008	
Environment Type	Type A, B	
Rated Noise Power	20 W (100 V line)	
Rated Impedance	100 V line: 500 Ohm (20 W), 1 kOhm (10 W), 2 kOhm (5 W)	
Sensitivity S.P.L.	76 dB (1 W, 4 m, 100 Hz to 10 kHz pink noise, 2 speaker)	
	89 dB (at rated noise power / 4 m, 2 speaker)	
Frequency Response	120 Hz – 20 kHz (–10 dB of sensitivity)	
Coverage Angle (–6 dB)	2x 130° (500 Hz), 2x 155° (1 kHz), 2x 155° (2 kHz), 2x 60° (4 kHz)	
Speaker Component	2x: 12 cm (5") cone speaker	
Operating Temperature	–25°C .... + 70°C	
Cable Connection	Screw terminal (ceramic)	
Applicable Cable Size	Conductor size : 0.8 – 2.5 mm <sup>2</sup> (cross section)	
Finish	Baffle	Aluminium, white paint
	Cabinet	Aluminium, white paint
Dimensions	146 (dia) x 186 (D) mm (5.75" x 7.32")	
Weight	3.2 kg (7.05 lbs)	
IP Grade	IP 44	

### Notes

- The design and specifications are subject to change without notice for improvement.
- The specification data were 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 contains the reference axis and perpendicular to the reference plane.