TOA

INSTRUCTIONS MANUAL

PENDANT SPEAKERS

PE-304BU, PE-304WU
PE-604BU, PE-604WU

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.
- Never 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.
- Attach the safety wire to the unit. If not attached, the unit could fall off, resulting in personal injury.

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

- 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.
- Do not hang down from the unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Avoid touching the unit's sharp metal edge, and the cut ends of the hanging and safety wires to prevent injury.
- Firmly hold the speaker body when using the release key. Failure to do so may cause the speaker to fall, resulting in possibly personal injury.

2. GENERAL DESCRIPTION

The PE-304BU, PE-304WU, PE-604BU, and PE-604WU are pendant speakers designed for the installations suspended from a ceiling. A directly-attached 5 m (16.4 ft) hanging wire allows the speaker to be suspended from high ceilings.
These speakers can be driven on both high-impedance (100 V, 70 V and 25 V) and low-impedance (8 Ω) lines. The input power (impedance) can be easily changed at the rear side of the speaker.
These speakers are certified to UL 1480 UUMW and ULC-S541 standards. Using the supplied GRIPPLE® hangers will facilitate the speaker mounting height adjustment.

GRIPPLE® is a registered trademark of Gripple Limited, England.

3. INPUT POWER (IMPEDANCE) CHANGE

Turn the rotary switch (on the rear side of the speaker) to set it to the desired input impedance using a slotted screwdriver.
Note: Set the rotary switch without removing the hanging bracket.

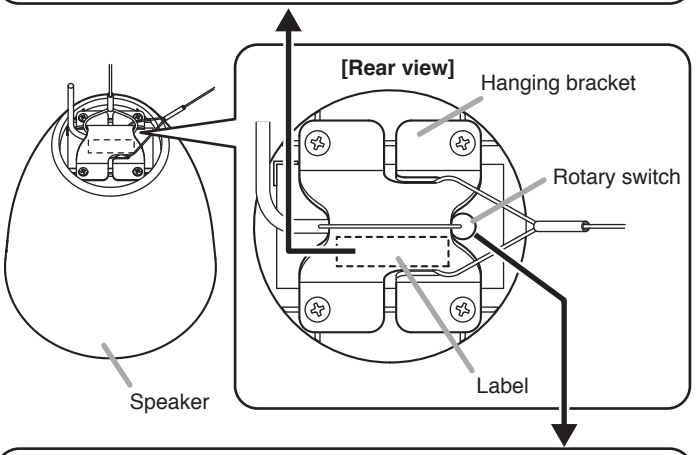
The label showing Impedance vs. Input power table is affixed to the hanging bracket.
"100 V," "70 V," and "25 V" indications in the leftmost column are "100 V line," "70 V line," "25 V line," respectively.

[PE-304BU, PE-304WU]

IMP.	10kΩ	3.3kΩ	1kΩ	330Ω	170Ω
100V	1.3W	3W	10W	30W	
70V	0.6W	1.5W	5W	15W	30W
25V	0.1W	0.2W	0.6W	1.9W	3.7W

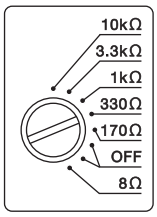
[PE-604BU, PE-604WU]

IMP.	3.3kΩ	670Ω	330Ω	170Ω	83Ω
100V	3W	15W	30W	60W	
70V	1.5W	7.5W	15W	30W	60W
25V	0.2W	0.9W	1.9W	3.7W	7.5W

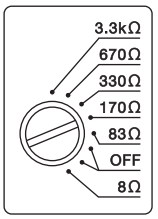


• **Rotary switch**

[PE-304BU, PE-304WU]
The switch is factory-preset to 330 Ω.



[PE-604BU, PE-604WU]
The switch is factory-preset to 170 Ω.



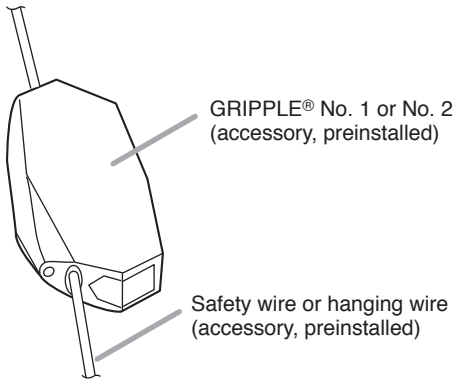
⚠ CAUTION

- Switch off the amplifier's power when changing the input power.
- Never set the rotary switch to the "170 Ω" (PE-304BU, PE-304WU) or "83 Ω" (PE-604BU, PE-604WU) position when operating the speaker on 100 V line.
  Failure to follow this instruction could result in damage to the speaker or amplifier.
- Never set this switch to the "8 Ω" position when connecting to the amplifier's high-impedance speaker line (25 V, 70 V or 100 V), as doing so may damage the speaker or amplifier.
  Be sure to set this switch to the "8 Ω" position when connecting to the amplifier's low-impedance line.

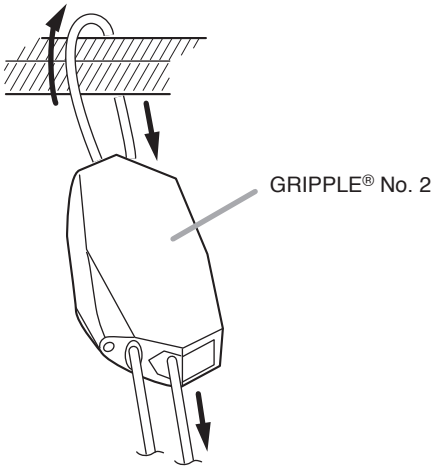
4. INSTALLATION AND CONNECTION

Note
Local codes may require other installation methods. Check with authority having jurisdiction to determine acceptability of the mounting methods shown here.

Step 1. Confirm that GRIPPLE® No. 1 (small one) is installed on a safety wire (thin one) and GRIPLLE® No. 2 (big one) on a hanging wire (thick one).



Step 2. Pass the hanging wire over the ceiling anchor point such as beam or purlin, then pass it through the other hole in the GRIPPLE® No. 2.



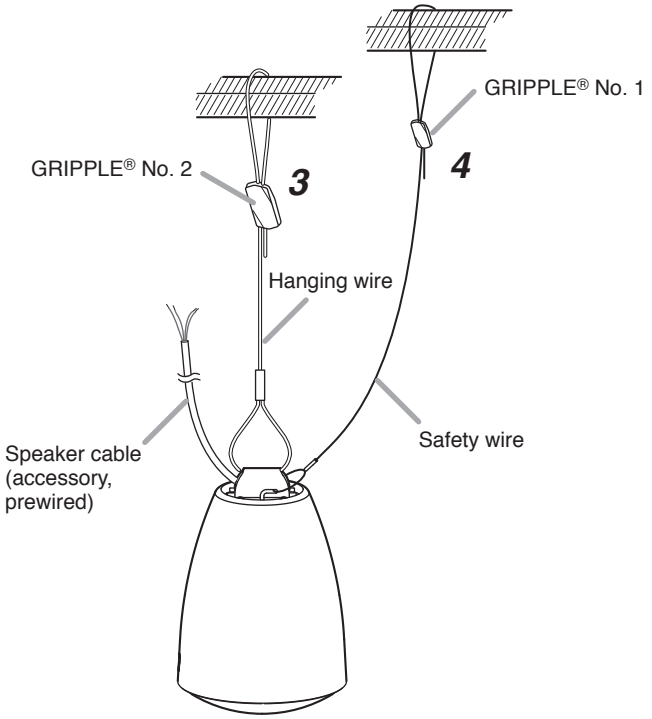
Step 3. Adjust the length of the hanging wire for the optimum speaker mounting height.

Step 4. Install the safety wire following the same procedure as in Steps 2 and 3. Be sure to pass the safety wire over a different ceiling anchor point from the one the hanging wire was passed over in Step 2.

⚠ CAUTION

Follow the instructions below.
Doing otherwise may cause the speaker fall, resulting in personal injury.

- Never hang the speaker with the safety wire.
- The surplus length of the safety wire must be within 30 cm (11.81") from the state that the safety wire is tight.
- Install the hanging wire first, then the safety wire. (Never reverse this order.)

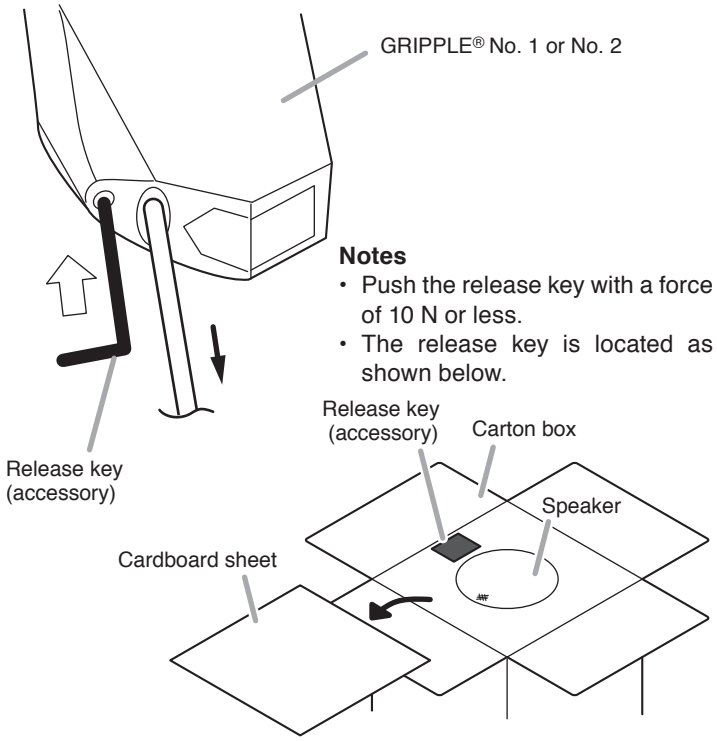


⚠ CAUTION

Avoid touching the unit's sharp metal edge, and the cut ends of hanging and safety wires to prevent injury.

[How to move the wire in the reverse direction]

Move the hanging or safety wire in the reverse direction while inserting the release key fully into the smaller hole in the GRIPPLE® No. 1 or No. 2.



Notes

- Push the release key with a force of 10 N or less.
- The release key is located as shown below.

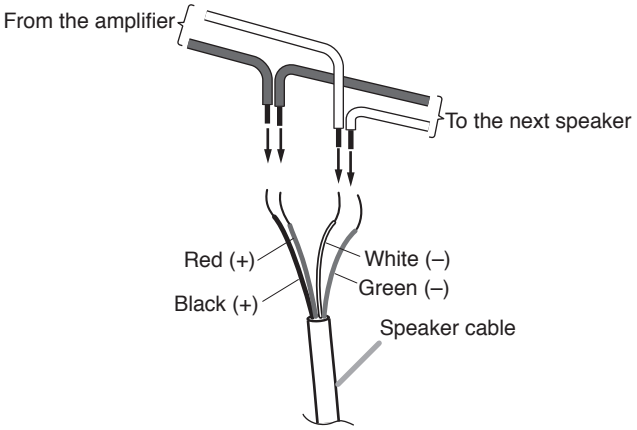
⚠ CAUTION

Firmly hold the speaker body when using the release key.
Failure to do so may cause the speaker to fall, resulting in possibly personal injury.

Step 5. Connect the lead-in and lead-out cables to the speaker cable as shown below using a proper connection tool.

⚠ CAUTION

Never hang the speaker with the speaker cable.
Failure to do so may cause the speaker to fall, resulting in possibly personal injury.



Note

Follow the cable color coding when connecting the cables.

⚠ CAUTION

To conform with UL 1480 UUMW/ULC-S541, requirements for fire alarm signaling speaker, field wires must be connected as shown above.
And, installation must comply with all National and Local Building Codes, also NFPA guidelines or CAN/ULC-S524.

5. SPECIFICATIONS

Model No.		PE-304BU	PE-304WU	PE-604BU	PE-604WU
Enclosure		Bass-reflex type			
Rated Input		30 W (100 V line, 70 V line, 8 Ω), 3.7 W (25 V line)		60 W (100 V line, 70 V line, 8 Ω), 7.5 W (25 V line)	
Rated Impedance	100 V line	330 Ω (30 W), 1 kΩ (10 W), 3.3 kΩ (3 W), 10 kΩ (1.3 W)		170 Ω (60 W), 330 Ω (30 W), 670 Ω (15 W), 3.3 kΩ (3 W)	
	70 V line	170 Ω (30 W), 330 Ω (15 W), 1 kΩ (5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.6 W)		83 Ω (60 W), 170 Ω (30 W), 330 Ω (15 W), 670 Ω (7.5 W), 3.3 kΩ (1.5 W)	
	25 V line	170 Ω (3.7 W), 330 Ω (1.9 W), 1 kΩ (0.6 W), 3.3 kΩ (0.2 W), 10 kΩ (0.1 W)		83 Ω (7.5 W), 170 Ω (3.7 W), 330 Ω (1.9 W), 670 Ω (0.9 W), 3.3 kΩ (0.2 W)	
	Low	8 Ω			
Sensitivity		90 dB (1 W, 1 m) (330 Hz – 3.3 kHz, pink noise)			
Frequency Response		95 Hz – 20 kHz (–10 dB)		110 Hz – 20 kHz (–10 dB)	
Operating Temperature		–10 °C to +50 °C (14 °F to 122 °F)			
Speaker Component		12 cm (5") cone-type + balanced dome-tweeter (coaxial)			
UL Code		UL 1480 UUMW, ULC-S541			
Speaker Cable		4-core FPL listed cable 4.6 m (15.09 ft)			
Finish		Enclosure: ABS resin, black Grille: Surface-treated steel plate mesh, black, paint	Enclosure: ABS resin, white (RAL 9010 equivalent) Grille: Surface-treated steel plate mesh, white (RAL 9010 equivalent), paint	Enclosure: ABS resin, black Grille: Surface-treated steel plate mesh, black, paint	Enclosure: ABS resin, white (RAL 9010 equivalent) Grille: Surface-treated steel plate mesh, white (RAL 9010 equivalent), paint
Dimensions		ø186 x 275 (h) mm (ø7.32" x 10.83") (unit only)			
Weight		2 kg (4.41 lb) (unit only)		2.9 kg (6.39 lb) (unit only)	

[Sound pressure level at 10 ft]

Model No.		PE-304BU, PE-304WU					PE-604BU, PE-604WU				
Impedance		170 Ω	330 Ω	1 kΩ	3.3 kΩ	10 kΩ	83 Ω	170 Ω	330 Ω	670 Ω	3.3 kΩ
100 Vrms	Wattage tap (W)	—	30	10	3	1.3	—	60	30	15	3
	SPL per UL Reverberant Room (dBA)	—	92	88.7	83.1	78.6	—	93.1	91.1	89	82.3
	SPL per ULC Anechoic Room (dBA)	—	96.4	90.2	85.4	81.9	—	95.1	93.5	90.9	83.8
70 Vrms	Wattage tap (W)	30	15	5	1.5	0.6	60	30	15	7.5	1.5
	SPL per UL Reverberant Room (dBA)	91.6	90.1	85.6	80.8	75.3	93.2	90.6	89.2	85.7	80
	SPL per ULC Anechoic Room (dBA)	84.7	92.2	87.6	82.8	79.1	95	93.2	90.9	88.1	80.9
25 Vrms	Wattage tap (W)	3.7	1.9	0.6	0.2	0.1	7.5	3.7	1.9	0.9	0.2
	SPL per UL Reverberant Room (dBA)	83.4	80.7	76.3	71.8	66.1	84.7	83	80.5	77.1	71.1
	SPL per ULC Anechoic Room (dBA)	86.5	83.8	78.9	74.1	70.4	87.2	85.1	82.4	79.4	72.1
8 Ω	SPL per UL Reverberant Room (dBA)	91.7					94				
	SPL per ULC Anechoic Room (dBA)	95.5					95.8				

[Directional Characteristics]

Angle	dBA
0° (on axis)	0 (reference)
± 29°	–3
± 45°	–6
± 90°	–13

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

• Accessories

GRIPPLE® No. 1* (preinstalled on the safety wire) 1
GRIPPLE® No. 2* (preinstalled on the hanging wire) 1
Release key (for GRIPPLE®) 1
Safety wire (5 m or 16.4 ft, ø1.5 mm or 0.06") 1
Hanging wire (5 m or 16.4 ft, ø2 mm or 0.08") 1
Speaker cable (4-core FPL listed cable 4.6 m or 15.09 ft) 1

* GRIPPLE® No. 1 and No. 2 are hangers for suspending the speaker.

Traceability Information for Europe

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

Authorized representative:
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TOA Corporation

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