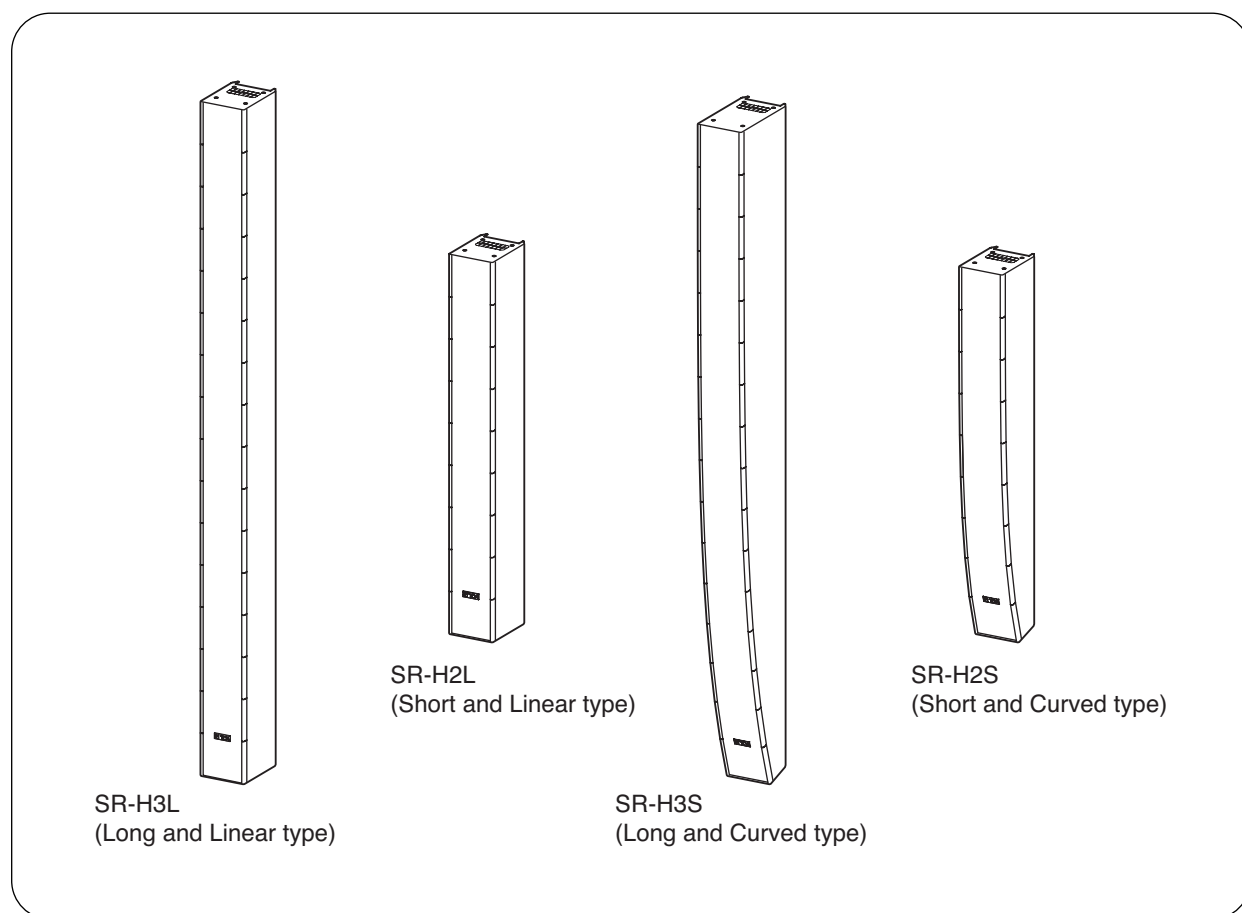


LINE ARRAY SPEAKERS**SR-H2L****SR-H2S****SR-H3L****SR-H3S****EXTENSION PLATE (optional)****SR-EP3**

Thank you for purchasing TOA's Line Array Speakers and their associated products.
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.

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.

When Installing the Unit

- 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.
- 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 mount the bracket. Extreme force is applied to the unit and the unit could fall off, possibly resulting in personal injuries.
- Use nuts and bolts 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.
- Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.
- Use the specified mounting bracket in combination. Doing otherwise may cause the unit or component to fall off, resulting in personal injury.
- Do not mount the unit in locations exposed to constant vibration. The mounting bracket can be damaged by excessive vibration, potentially causing the unit to fall, which could result in personal injury.
- (Applicable when mounting the speaker on a speaker stand)
Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down and causing personal injury and/or property damage.
- (Applicable when suspending the speaker)
Refer all installation work to the qualified professionals. Installation for flying requires extensive technical knowledge and experience. The speaker may fall off if incorrectly installed, resulting in possible personal injury.
- Flying Precautions (applicable when suspending the speaker)
Be sure to follow the instructions below. Otherwise, the suspension wires or belts may be off or snap and the speaker may fall off, causing personal injury.
 - Check to confirm that the suspension wires and belts are strong enough to withstand the speaker load.
 - The connectors of the suspension wires and belts must be securely linked with those of the speaker.
 - All parts and components (such as enclosures, metal pieces, and screws) must be free from any deformation, crack, and corrosion.
 - Be sure to use screws supplied with the optional flying hardware when installing the speaker using such hardware.



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 unit's sharp metal edge to prevent injury.
- Do not use anti-rust lubricant. If the unit contains resin parts, they could deteriorate and cause the parts to fall, possibly resulting in personal injury.
- (Applicable when mounting the speaker on a speaker stand)
Avoid placing the unit in a doorway or other high traffic area as people may trip on the equipment and cords, or be injured by falling objects.

When the Unit is in Use

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

2. GENERAL DESCRIPTION

The line array speaker features slim 84 mm (3.3")-wide construction incorporating high-quality 7 cm (2.8") full-range speaker units. The internal speaker units are vertically arrayed in close proximity to form an extended sound source line, minimizing distance attenuation and realizing a uniform sound pressure coverage area.

The line array speaker lineup includes the following four models:

- SR-H2L (Short and Linear type)
- SR-H2S (Short and Curved type)
- SR-H3L (Long and Linear type)
- SR-H3S (Long and Curved type)

The linear version provides excellent sound transmission distance. The curved version provides a 20° vertical directional angle that is designed for relatively short range coverage. The most appropriate model can be selected to match installation location and application.

3. FEATURES

- The short type (SR-H2L and SR-H2S) is constructed of 9 speaker units, while the long type (SR-H3L and SR-H3S) is constructed of 16 speaker units.
- Each speaker employs high-quality, heavy-duty 7cm (2.8") full-range drivers offering superb coverage in high frequencies.
- Unique front grille construction effectively widens the full-range drivers high frequency horizontal directivity.
- Since the linear sound source effect prevents acoustical energy from attenuating even at longer distances, the line array speaker provides advantages compared with normal types of speakers in its ability to project sound long distances. This realizes less difference in sound volume between areas close and far from the speaker, for a more uniform sound field.
- Since the speaker's vertical sound dispersion is focused, sound is only directed at the target area. The line array speaker (when correctly positioned) is not influenced by sound reflection from ceiling or floor surfaces, and can provide clear sounds even in spaces affected by long reverberation times or other poor acoustic conditions.
- Since the attenuation of sound pressure is small even far away from the speaker, the volume is not excessively loud in the area near the speaker. This helps suppress feedback (improving microphone amplification gain).
- Two linear types can be linked to improve sound transmission distance and widen the vertical coverage area.
- The use of optional mounting brackets permits the speaker to be installed in the most appropriate location for its intended use.
 - When mounting flat against a wall: SR-WB3 Wall Mounting Bracket
 - When mounting on a wall at some horizontal and vertical angles: SR-TB3 Wall Tilt Bracket
 - When suspending from a ceiling: SR-FB3 Flying Bracket
 - When mounting on a speaker stand: SR-SA3 Stand Adapter and ST-33B Speaker Stand

Note: For installation instructions, refer to the instruction manuals enclosed with each mounting bracket.

- The speakers can be used for high-impedance applications with the installation of the optional MT-S0301 Matching Transformer (Rated input: 30 W).
- Removable input connector facilitates connection and wiring

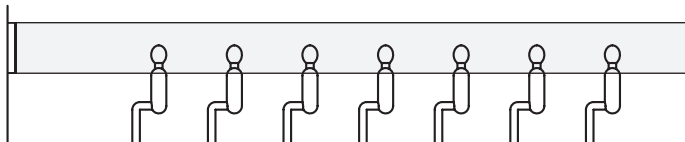
4. ABOUT COVERAGE AREA

The line array speaker radiates a sound only within a limited range as shown below.

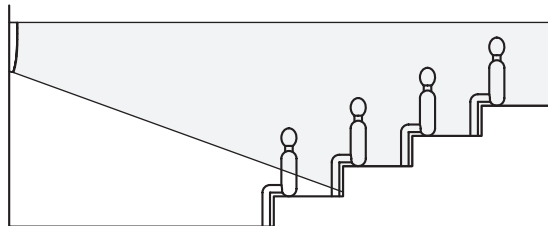
Since sound is extremely reduced in areas that are outside the range, take care that the listening area is sufficiently covered when installing the speaker.

Installation examples

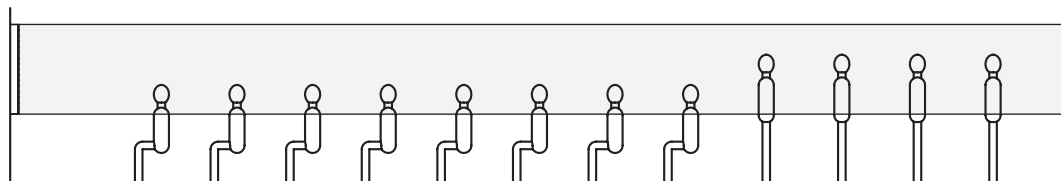
[SR-H2L]



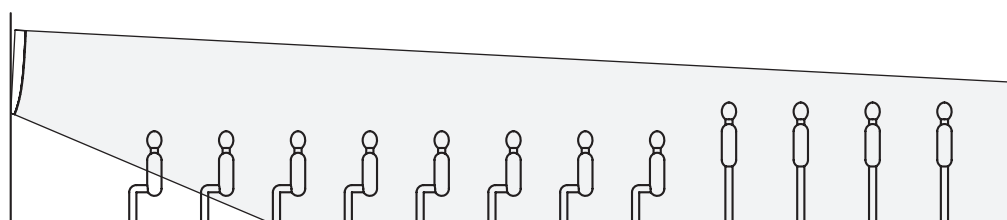
[SR-H2S]



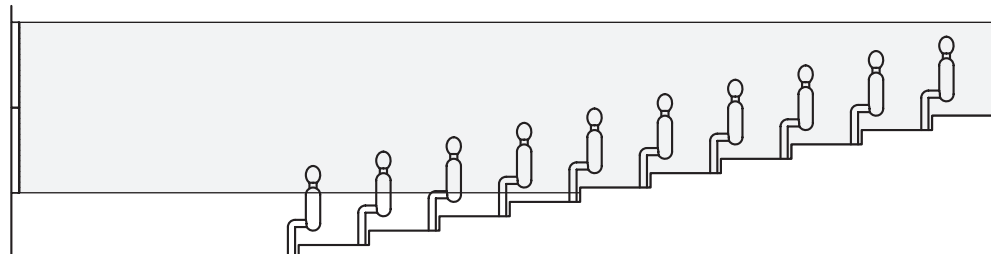
[SR-H3L]



[SR-H3S]



[SR-H3L x 2]

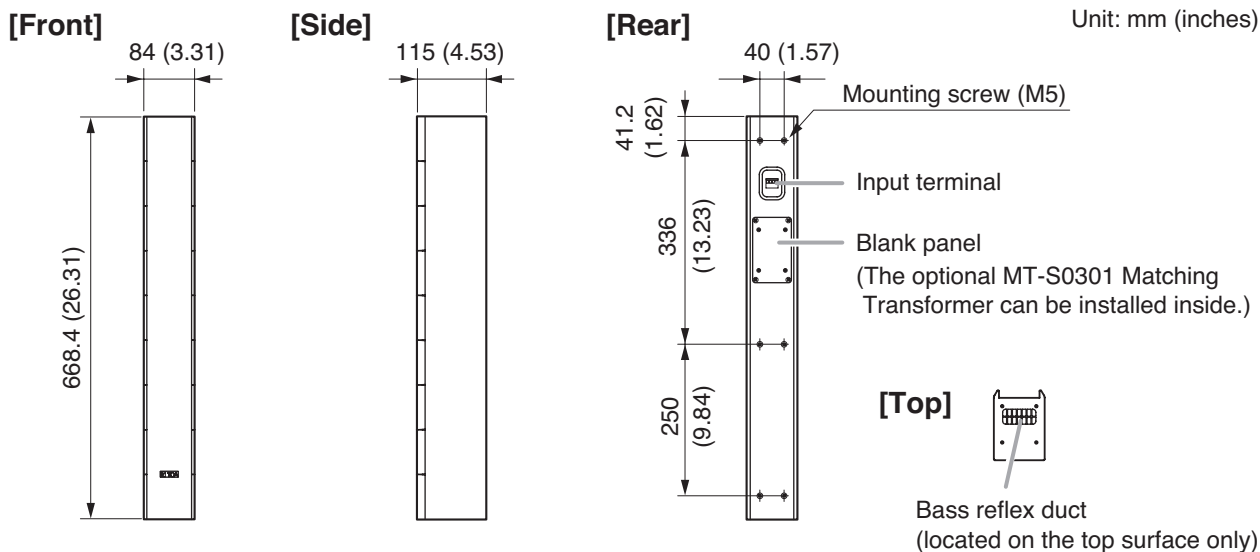


Tips

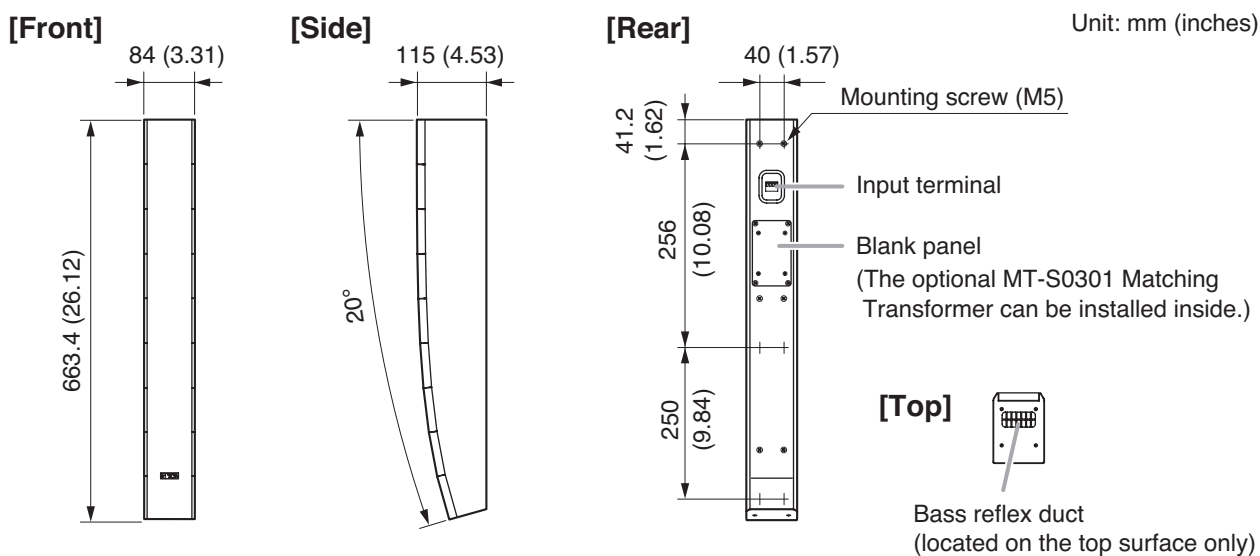
- Installing the line array speaker in a lower position with a narrow downward angle allows a wider coverage area to be secured from front to rear.
- Installing the line array speaker in a higher position with a wider downward angle could cause the forward and rear audience areas to be excluded from the coverage area.

5. DIMENSIONAL DIAGRAMS

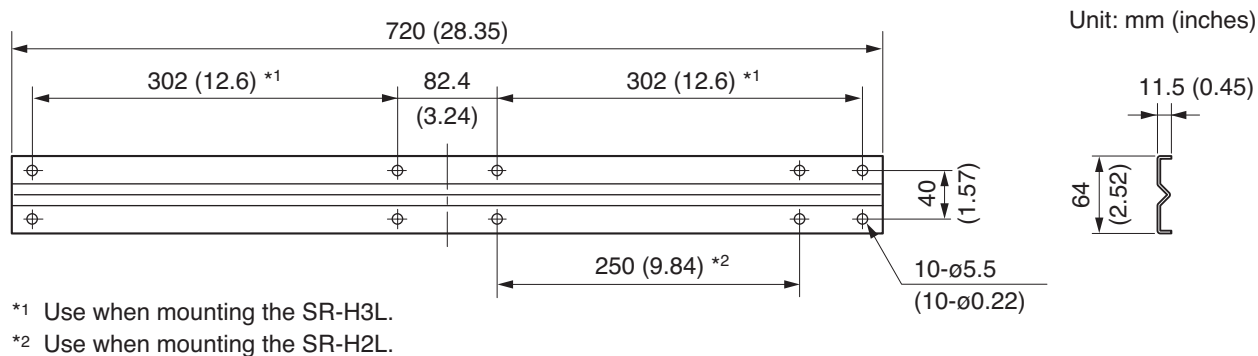
5.1. Line Array Speaker SR-H2L (Short and Linear type)



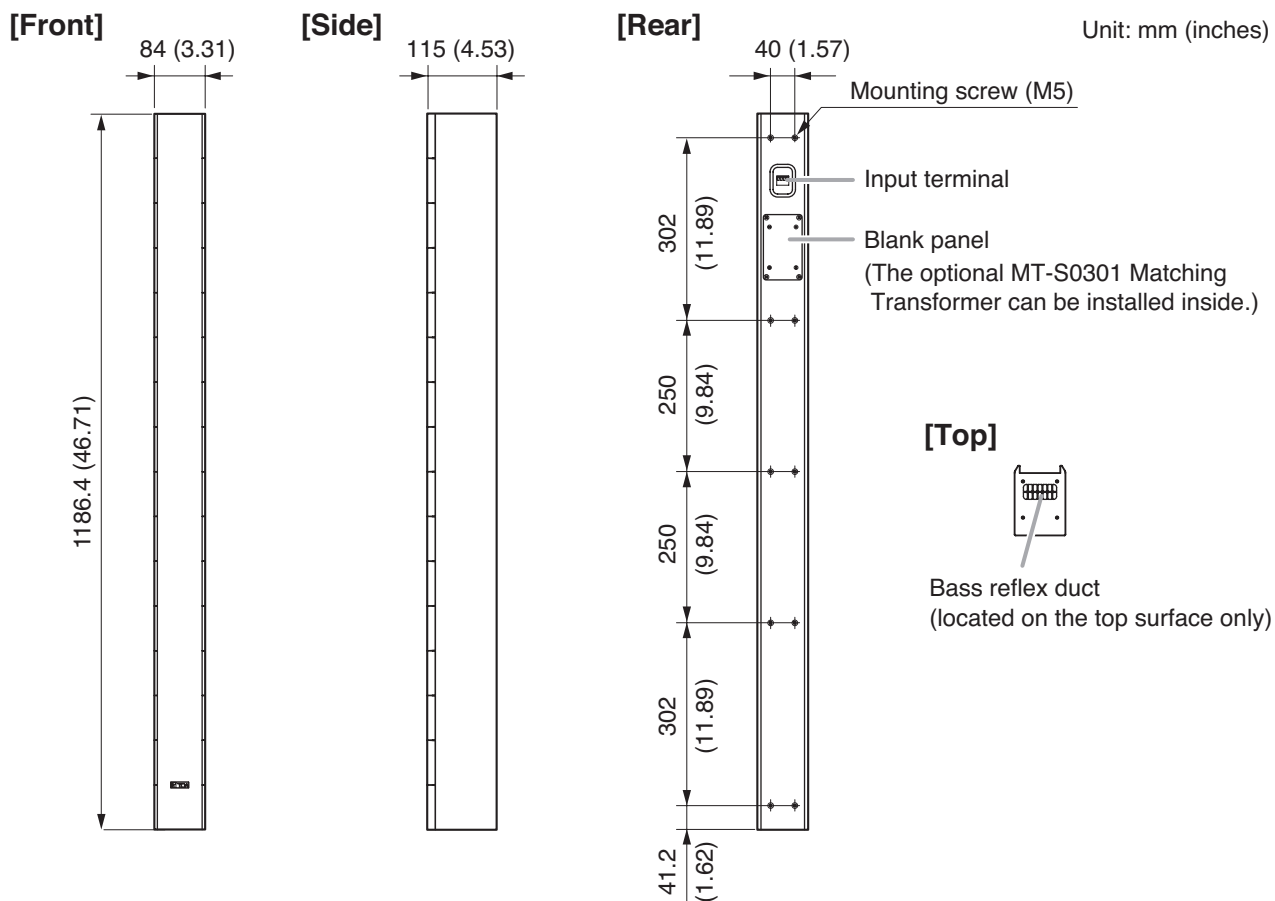
5.2. Line Array Speaker SR-H2S (Short and Curved type)



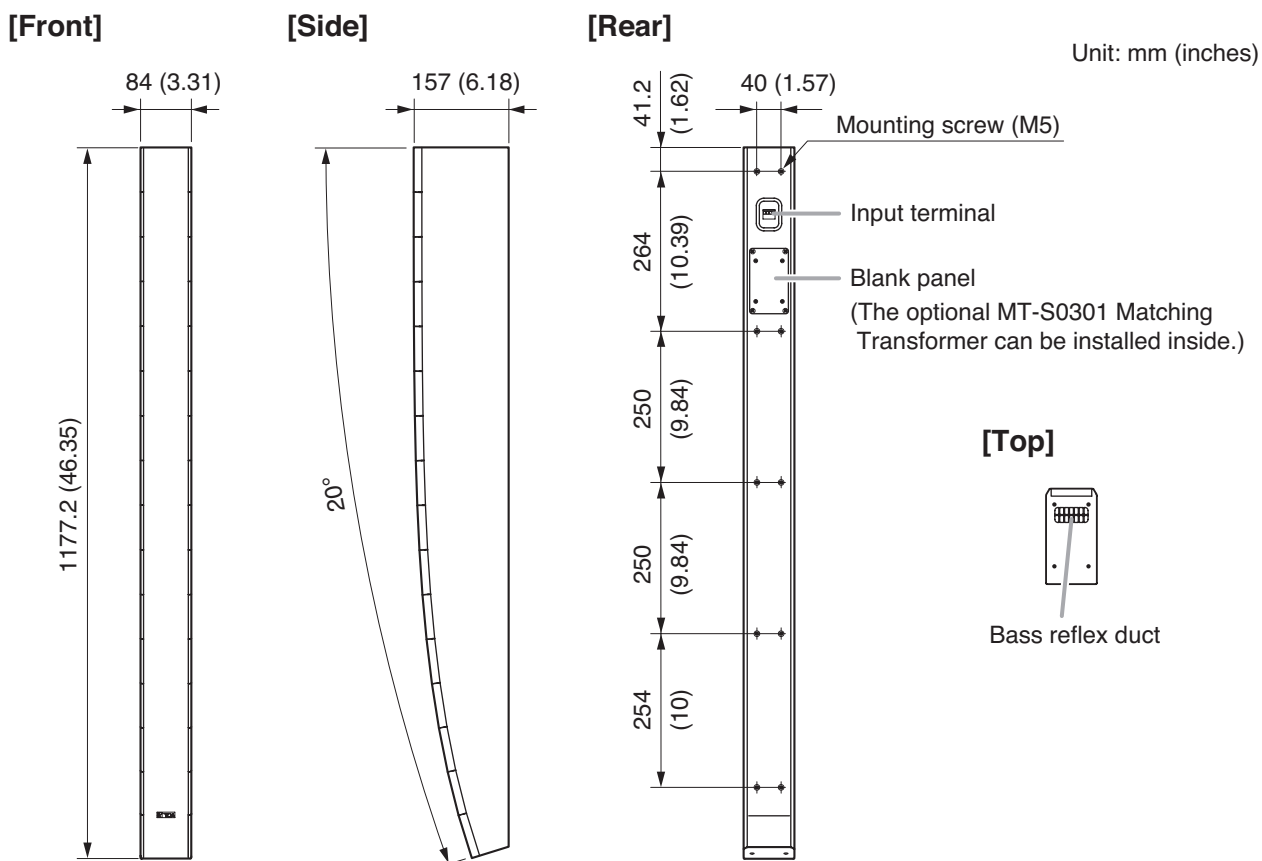
5.3. Extension Plate SR-EP3 (optional)



5.4. Line Array Speaker SR-H3L (Long and Linear type)



5.5. Line Array Speaker SR-H3S (Long and Curved type)

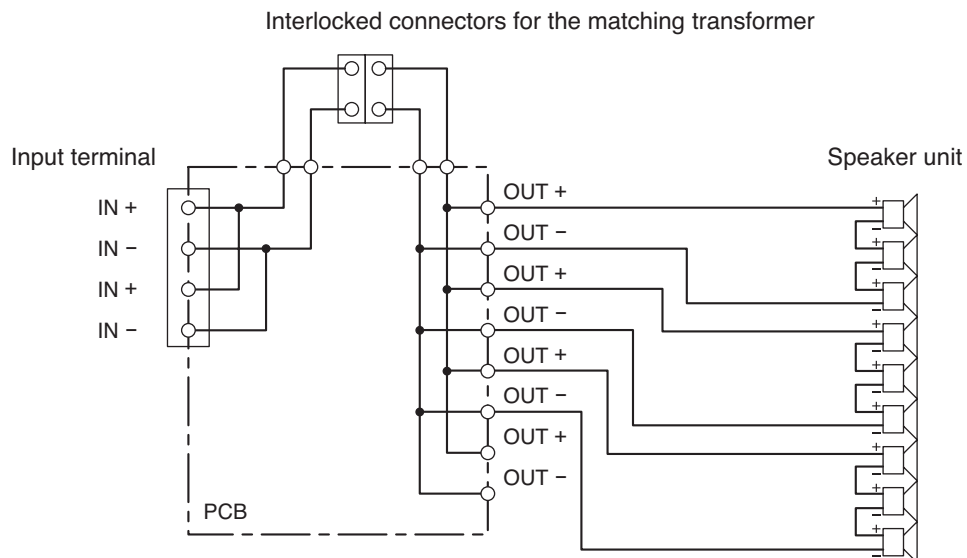


6. INTERNAL WIRING DIAGRAM

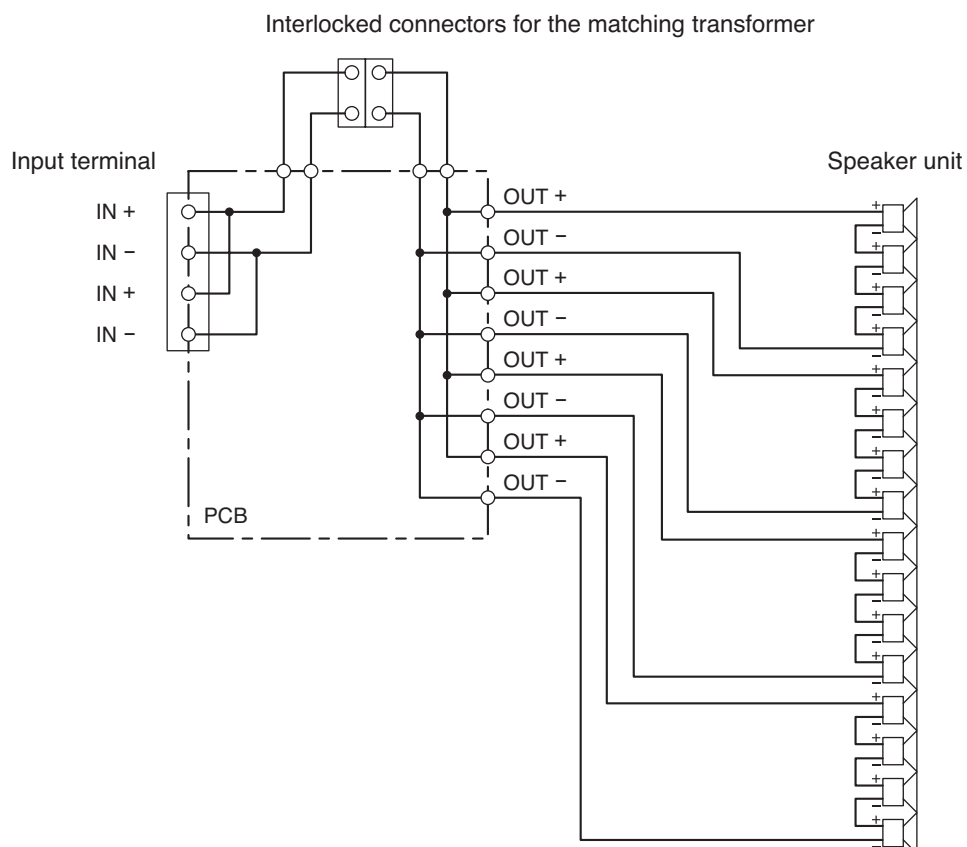
When shipped from the factory, the speaker is internally connected as shown below.

Since two pairs of “+” and “-” input terminals are parallel-connected internally, they can be used for parallel connection to a second speaker.

6.1. Line Array Speaker SR-H2L and SR-H2S

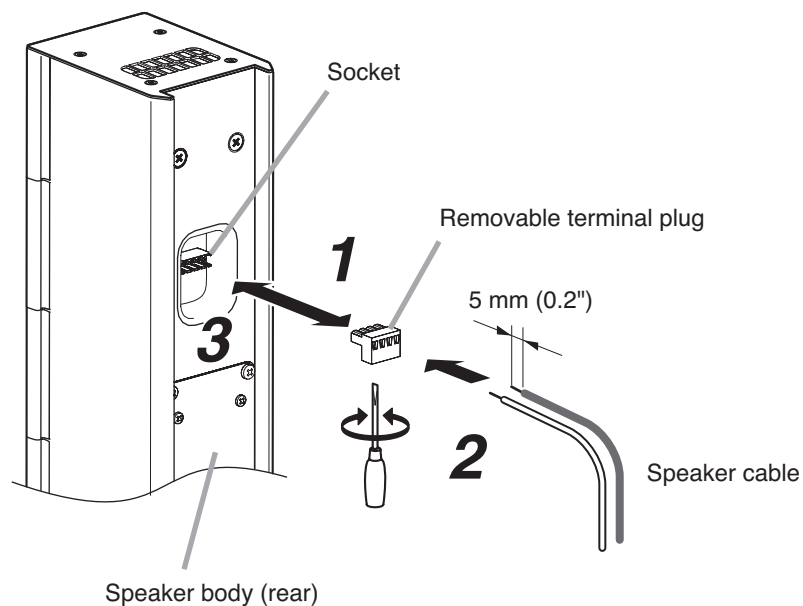


6.2. Line Array Speaker SR-H3L and SR-H3S



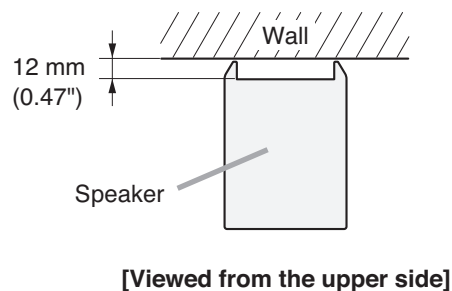
7. INPUT TERMINAL CONNECTION

Removable input connector offers easier and more efficient wiring.



Tip

The 12 mm (0.47")-high ridges in the back of the speaker provide ample space for speaker wiring. Even when the speaker is mounted flat against a wall, the speaker cable outlet hole in the wall does not need to be aligned with the input terminal position.



Step 1. Remove the removable terminal plug from the speaker's socket.

Step 2. Connect the speaker cable to the removable terminal plug.

Notes

- Applicable cable size is as follows.
 - Solid cables: AWG24 – AWG14
 - Stranded cables: AWG24 – AWG14
- Strip the insulation back about 5mm (0.2") from the cable end.

Tip

If no parallel connection is made, be sure to tighten unused terminal screws to prevent speaker resonance.

Step 3. Insert the removable terminal plug into the speaker's socket.

8. CHANGING TO HIGH IMPEDANCE

The speakers can be used for high-impedance applications with the installation of the optional MT-S0301 Matching Transformer.

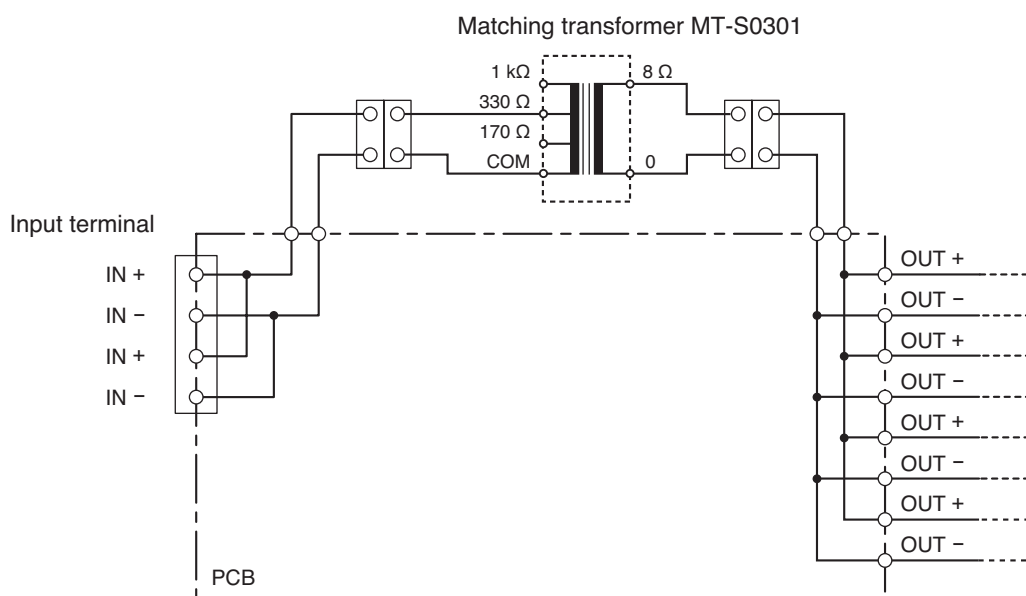
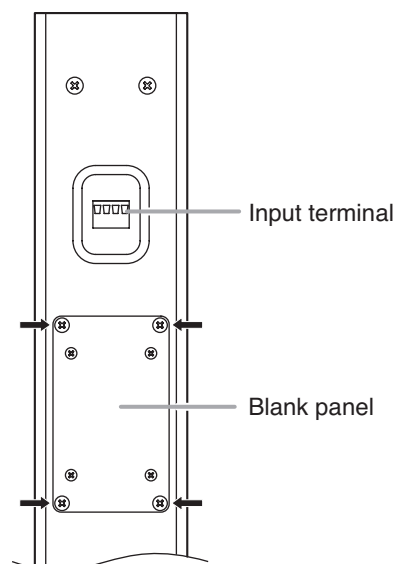
Even after the matching transformer has been installed, the removable input connector is used in the same manner as for low impedance operation.

To install the MT-S0301 transformer, remove the blank panel located on the speaker's rear surface.

Notes

- To remove the blank panel, remove the 4 screws indicated by arrows.
- For details regarding mounting procedures and tap (impedance) change, refer to the instruction manual enclosed with the MT-S0301.
- The diagram below is an internal wiring when the matching transformer is installed.

[Speaker's rear panel]



The following table shows the usable impedance.

Primary side impedance	High impedance 100 V line	High impedance 70 V line
170 Ω	Unusable	30 W
330 Ω	30 W	15 W
1 kΩ	10 W	5 W

9. JOINING SPEAKERS

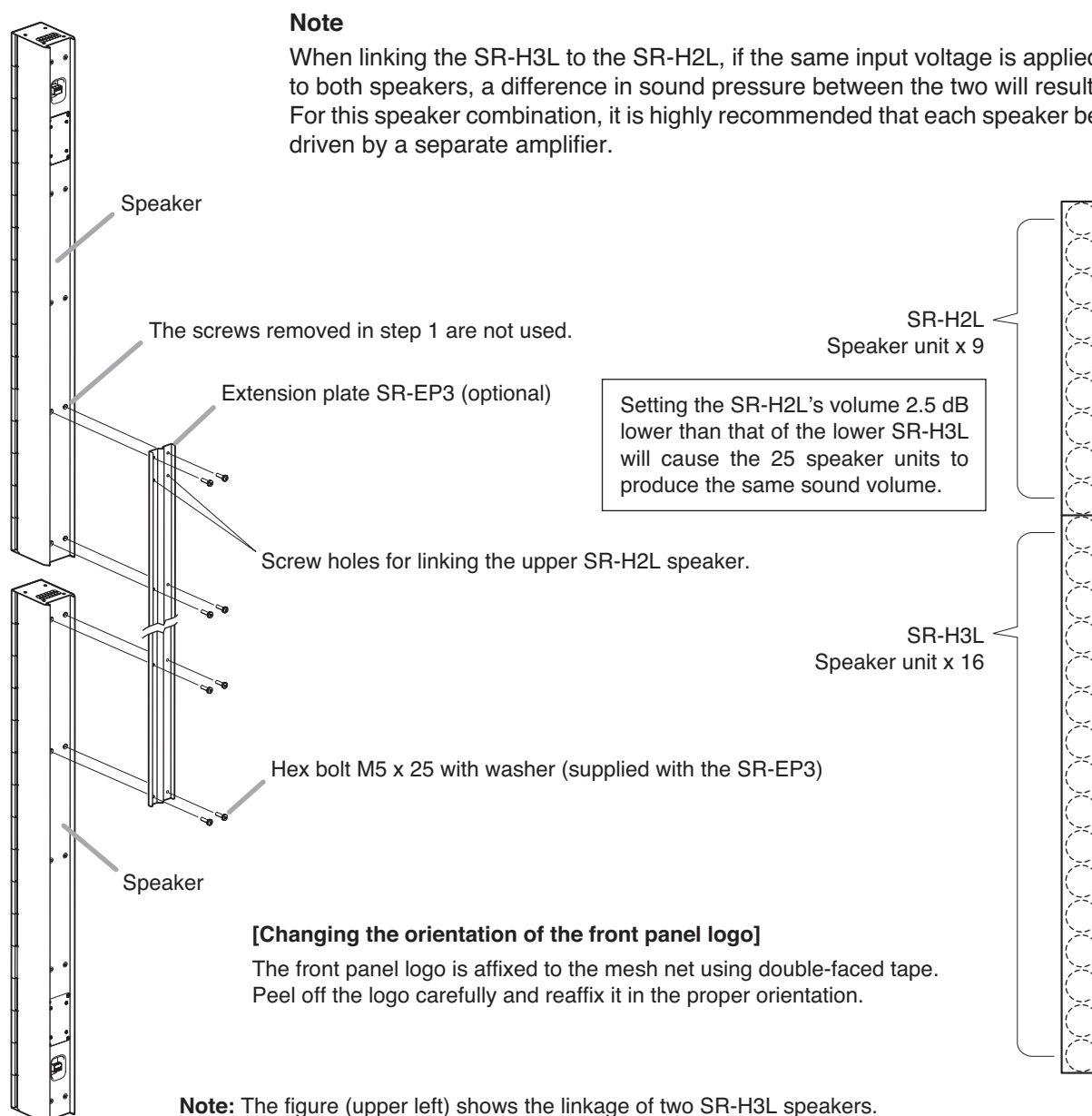
Two linear speakers can be linked to each other using the optional SR-EP3 Extension plate. Joining line array speakers configures a longer linear sound source, permitting transmission of higher sound output over a longer distance.

Notes

- Linkage is only possible for the following two speaker combinations, and cannot be performed for any other combinations:
 - SR-H3L + SR-H3L
 - SR-H3L + SR-H2L
- When linking, position the lower speaker upside down.

Step 1. Of the screws on the speaker rear (SR-H2L or SR-H3L), remove the lower four M5 flat-head screws. The removed screws will no longer be used.

Step 2. Attach the SR-EP3 Extension plate to the rear of the two speakers with its supplied screws.



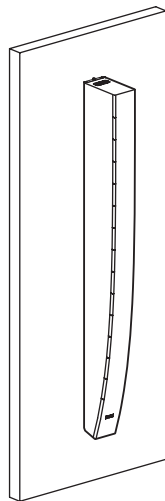
10. INSTALLATION EXAMPLES USING THE OPTIONAL BRACKETS

The optional mounting brackets are intended exclusively for the line array speakers and permit installations suited to the installation location or application.

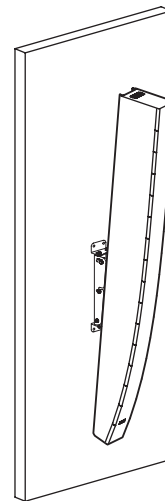
For mounting method, please refer to the installation manual enclosed with each bracket.

Installation Location	Application	Bracket	Applicable Speaker
Wall	Flat against the wall	SR-WB3	SR-H2L SR-H2S SR-H3L SR-H3S
	When adjusting angle up to 15° horizontal and 5° vertical	SR-TB3	
Ceiling	When suspending from a ceiling	SR-FB3	
Speaker stand (optional)	When mounting on the ST-33B Speaker Stand	SR-SA3	

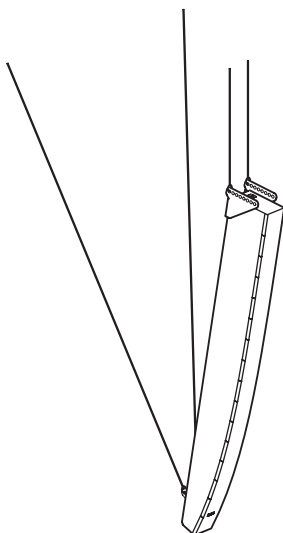
• Wall mounting (using the SR-WB3)



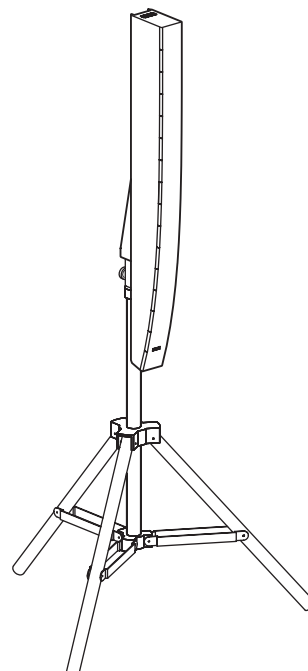
• Wall mounting (using the SR-TB3)



• Ceiling-suspended mounting (using the SR-FB3)



• Stand mounting (using the SR-SA3)



11. DIGITAL PROCESSOR FILTERING

Although the speaker can be operated without a digital processor, it is recommended that the speaker be used in conjunction with a digital processor for better sound reproduction. Recommended setting parameters are as follows.

11.1. When using the SR-H2L

TYPE	Frequency	Gain	Q
HPF	20 Hz	—	0.5
PEQ	100 Hz	+7 dB	1.0
PEQ	250 Hz	−4 dB* ¹ / −7 dB* ²	1.4
PEQ	3 kHz	−6 dB	1.0
PEQ	8 kHz	+2 dB	1.0

11.2. When using the SR-H2S

TYPE	Frequency	Gain	Q
HPF	20 Hz	—	0.5
PEQ	100 Hz	+7 dB	1.0
PEQ	250 Hz	−4 dB* ¹ / −7 dB* ²	1.4
PEQ	3 kHz	−3 dB	1.0
PEQ	8 kHz	+4 dB	1.0

11.3. When using the SR-H3L or Linked Speakers

TYPE	Frequency	Gain	Q
HPF	20 Hz	—	0.5
PEQ	100 Hz	+7 dB	1.0
PEQ	250 Hz	−5 dB* ¹ / −8 dB* ²	1.4
PEQ	3 kHz	−7 dB	1.0
PEQ	8 kHz	+4 dB	1.0

11.4. When using the SR-H3S

TYPE	Frequency	Gain	Q
HPF	20 Hz	—	0.5
PEQ	100 Hz	+7 dB	1.0
PEQ	250 Hz	−5 dB* ¹ / −8 dB* ²	1.4
PEQ	3 kHz	−4 dB	1.0
PEQ	8 kHz	+6 dB	1.0

*¹ Parameter for flying and stand mounting.

*² Parameter for wall mounting.

12 SPECIFICATIONS

12.1. Line Array Speakers SR-H2L and SR-H2S

Model	SR-H2L	SR-H2S
Enclosure	Bass-reflex type	
Power Handling Capacity	Continuous program: 180 W	
Rated Impedance	8 Ω	
Sensitivity	92 dB (1 W, 1 m equivalent, measured at 4 m)	90 dB (1 W, 1 m equivalent, measured at 4 m)
Frequency Response	80 – 18000 Hz (when using an optional digital processor)	90 – 17000 Hz (when using an optional digital processor)
Directivity Angle	Horizontal: 90° Vertical: 0° (within the range of speaker height)	Horizontal: 90° Vertical: 20°
Speaker Component	7 cm cone-type x 9	
Input Connector	Removable input connector	
Finish	Enclosure: MDF, white, urethane coating Mesh net: Rolled steel plate, white, acrylic paint	
Dimensions	84 (w) x 668.4 (h) x 115 (d) mm (3.31" x 26.31" X 4.53")	84 (w) X 663.4 (h) X 115 (d) mm (3.31" x 26.12" x 4.53")
Weight	4.4 kg (9.7 lb)	4.2 kg (9.26 lb)
Optional Product	Extension Plate: SR-EP3 Wall Tilt Bracket: SR-TB3 Stand Adapter: SR-SA3 Matching Transformer: MT-S0301	Wall Mounting Bracket: SR-WB3 Flying Bracket: SR-FB3 Speaker Stand: ST-33B

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

12.2. Line Array Speakers SR-H3L and SR-H3S

Model	SR-H3L	SR-H3S
Enclosure	Bass-reflex type	
Power Handling Capacity	Continuous program: 360 W	
Rated Impedance	8 Ω	
Sensitivity	95 dB (1 W, 1 m equivalent, measured at 8 m)	92 dB (1 W, 1 m equivalent, measured at 8 m)
Frequency Response	110 – 18000 Hz (when using an optional digital processor)	90 – 17000 Hz (when using an optional digital processor)
Directivity Angle	Horizontal: 90° Vertical: 0° (within the range of speaker height)	Horizontal: 90° Vertical: 20°
Speaker Component	7 cm cone-type x 16	
Input Connector	Removable input connector	
Finish	Enclosure: MDF, white, urethane coating Mesh net: Rolled steel plate, white, acrylic paint	
Dimensions	84 (w) x 1186.4 (h) x 115 (d) mm (3.31" x 46.71" X 4.53")	84 (w) X 1177.2 (h) X 157 (d) mm (3.31" x 46.35" x 6.18")
Weight	7.6 kg (16.76 lb)	7.9 kg (17.42 lb)
Optional Product	Extension Plate: SR-EP3 Wall Tilt Bracket: SR-TB3 Stand Adapter: SR-SA3 Matching Transformer: MT-S0301	Wall Mounting Bracket: SR-WB3 Flying Bracket: SR-FB3 Speaker Stand: ST-33B

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

12.3. Extension Plate SR-EP3 (optional)

The SR-EP3 is used to join the SR-H3L and SR-H3L, or SR-H3L and SR-H2L speakers.

Applicable Speaker	SR-H2L and SR-H3L
Number of Speakers to be Joined	Up to 2
Finish	Rolled steel plate, white, paint
Dimensions	64 (w) x 720 (h) x 11.5 (d) mm (2.52" x 28.35" x 0.45")
Weight	1.1 kg (2.43 lb)

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

• Accessories

Hex bolt M5 x 25 (with washer) 8

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

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

Authorized representative:
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Germany