

# SPEAKER CONNECTION BRACKETS

## HY-CN7B, HY-CN7W, HY-CN7B-WP, HY-CN7W-WP

Thank you for purchasing TOA's Speaker Connection Brackets. 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.

- (HY-CN7B and HY-CN7W only)  
Since the bracket is designed for indoor use, do not install it outdoors. If installed outdoors, the aging of parts causes the speaker 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 speaker and it could fall off, possibly resulting in personal injuries.
- 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.
- The bracket is exclusively used to join together two HX-7 Series Speaker Systems. Using the bracket

in combination with other speakers may cause the speaker to fall off, resulting in personal injury.

- Avoid installing the speaker in indoor swimming facilities that are not well ventilated. In such locations, the mounting hardware may be vulnerable to corrosion, eventually allowing the speaker to fall resulting in personal injury.

### **CAUTION**

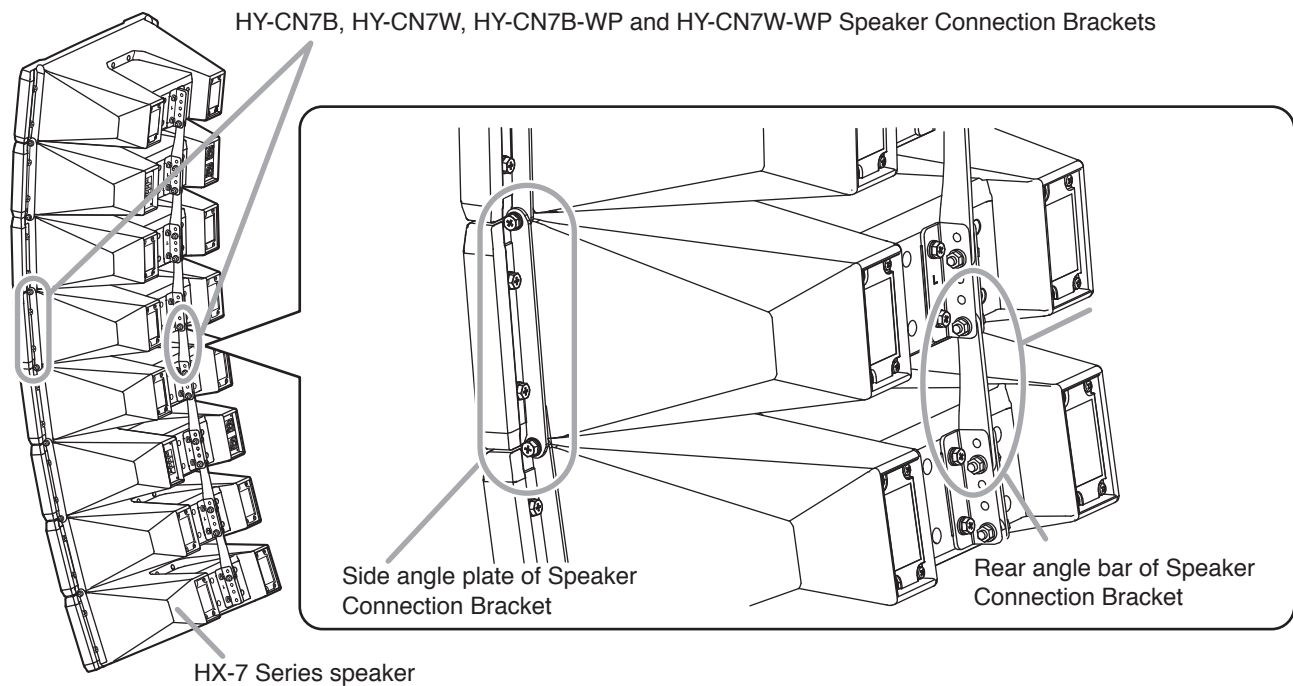
Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

- Avoid touching the bracket's sharp metal edge to prevent injury.
- Have the bracket checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the bracket that could cause the speaker to fall, possibly causing personal injury.

## 2. GENERAL DESCRIPTION

The HY-CN7 Series brackets are used to join together two HX-7 Series speaker systems into a single system. Joining speakers together not only allows more accurate control of directivity for lower frequencies, but also enhances the audibility of amplified speech in locations that suffer from long reverberation times or high background noise levels. The HY-CN7B and HY-CN7W brackets are designed for indoor installations, and the HY-CN7B-WP and HY-CN7W-WP brackets are for outdoor installations under eaves or other areas protected from direct exposure to the elements.

### 3. COMPLETE ASSEMBLY (Joined speaker example using two HX-7 Series Speaker Systems)



### 4. JOINING TWO SPEAKER SYSTEMS

#### **WARNING**

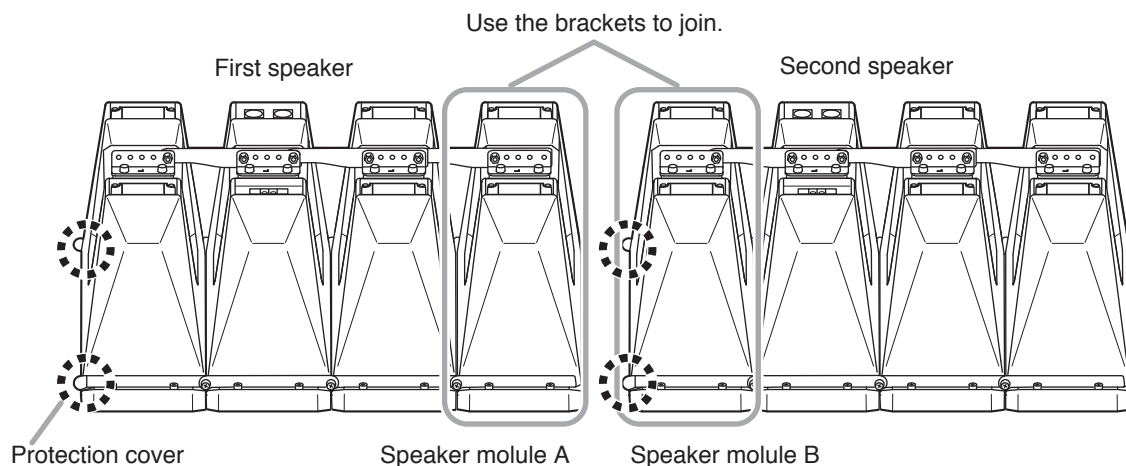
Be sure to observe the following precautionary instructions. Doing otherwise could result in speakers falling and potentially causing personal injury.

- Do not join 5 or more HX-7 Series Speaker Systems together in a single cluster.
- Three or four HX-7 Series Speaker Systems may be joined together only when the specified conditions for mounting brackets and mounting methods are met.

Before joining speaker systems, lay out a protective sheet, corrugated cardboard or other soft material on a flat surface, and perform all work on the 2 speakers with their front baffles facing downward. It is recommended that at least two persons be involved in joining speaker systems.

Two speaker systems can be joined together by connecting speaker modules (A and B in the figure below) using the specified bracket hardware.

**Note:** Position speaker modules A and B facing in the same direction. In the figure, their side angle plate protection covers are visible on the left side of each speaker system.



# ⚠ WARNING

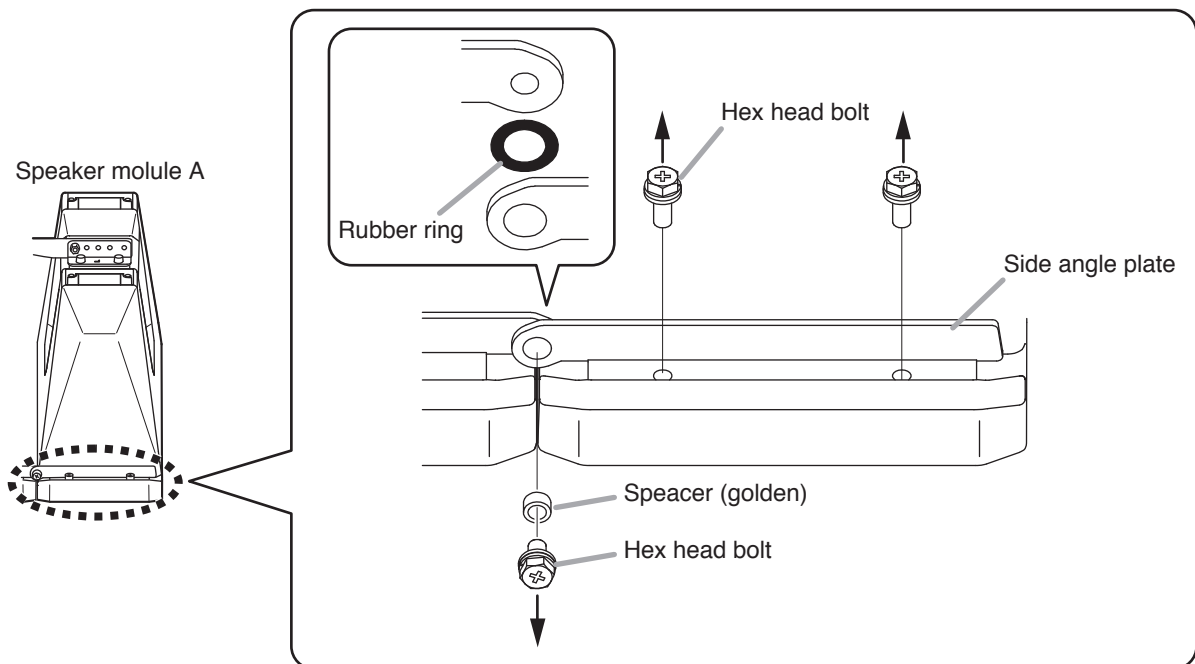
Tighten the bolts securely, as instructed below. Failure to follow instructions precisely could result in a falling speaker and potential personal injury.

- Ensure that all bolts are securely inserted as far as their threads go, then securely fasten each bolt with a nut.
- Tighten all the bolts with the designated tightening torque. For tightening, use a Phillips screwdriver, or open- or box-end wrench.

**Step 1.** Detach the side angle plates located on either side of speaker module A, and replace them with the HY-CN7 bracket's side angle plates.

**1-1.** Remove the 2 mounting bolts to detach each side angle plate.

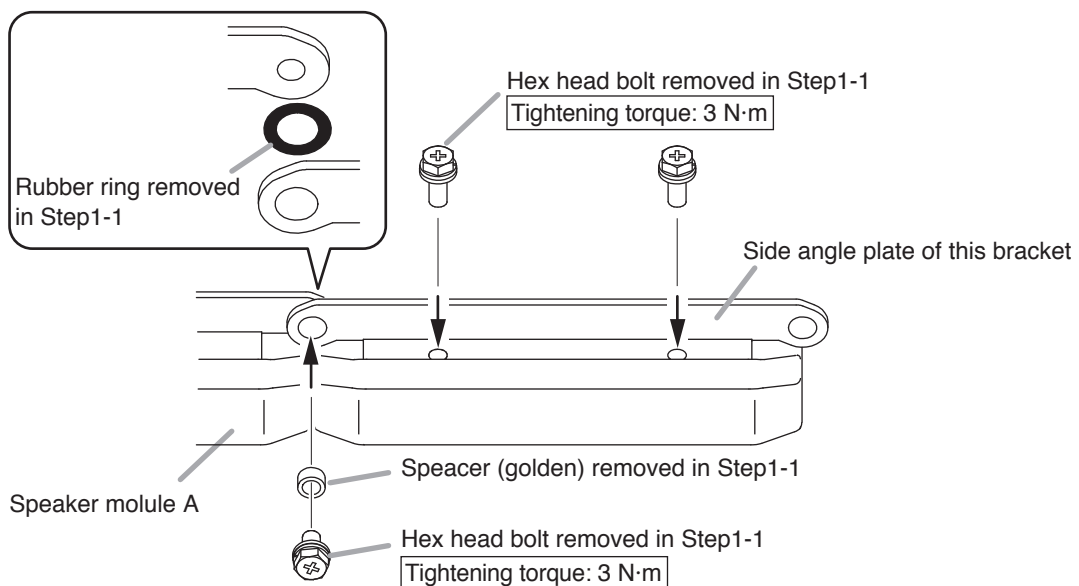
**Note:** Take care not to lose the removed bolts, spacers and rubber rings, as these are used in the next step of the procedure.



Similarly, replace the side angle plate on the opposite side of the speaker module.

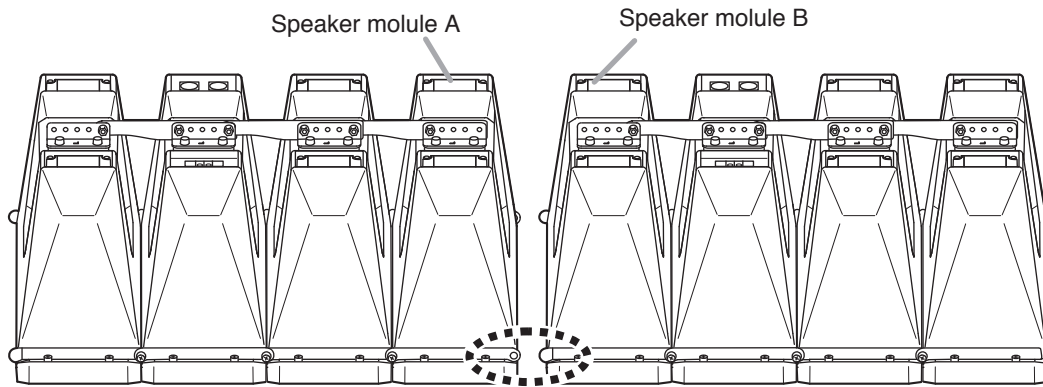
**1-2.** Attach the HY-CN7 bracket's side angle plates in the same position where the speaker's side angle plates were mounted.

Attach the HY-CN7 bracket's side plates in the reverse order shown in **Step 1-1**.

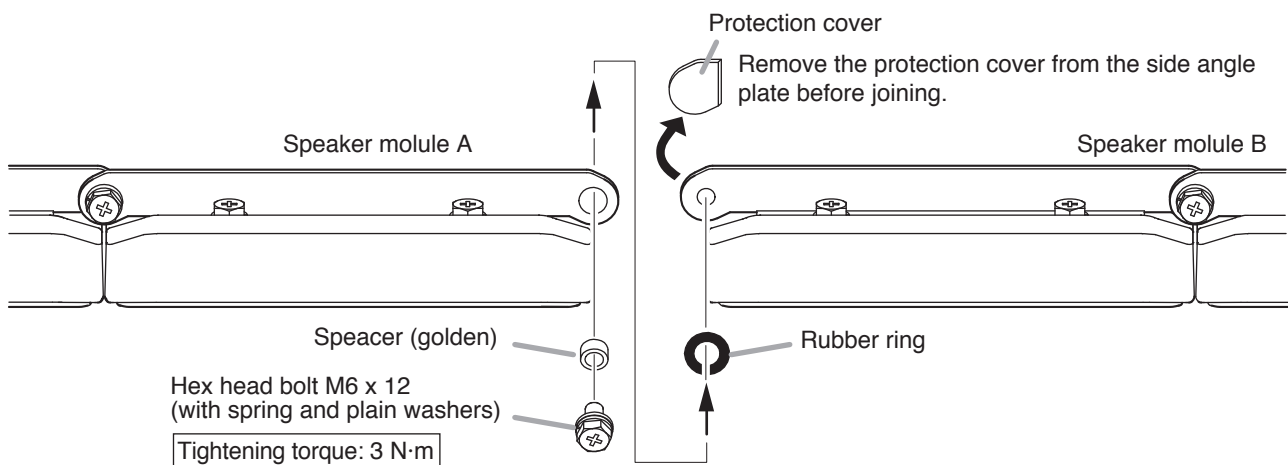


Similarly, attach the side angle plate on the opposite side of the speaker module.

**Step 2.** Join the side angle plates of speaker module A to those of speaker module B.

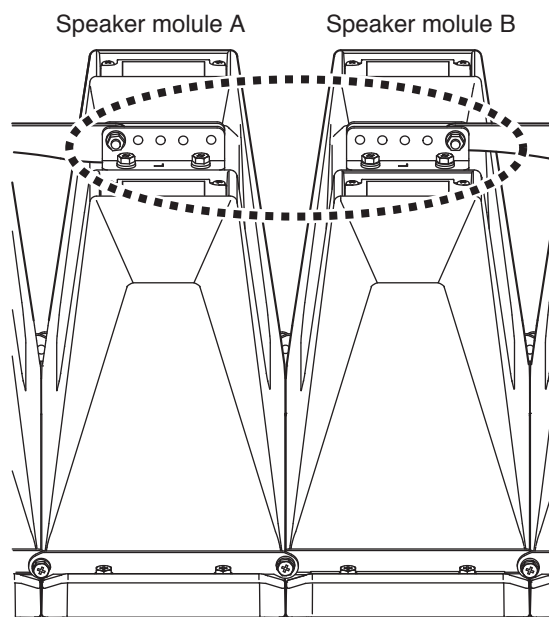


Join the side angle plates using the supplied bolts, spacers and rubber rings.



Similarly, join the side angle plate on the opposite side of the speaker module.

**Step 3.** Join the rear bracket of speaker module A to that of speaker module B using the HY-CN7 bracket's rear angle bar.



**3-1.** Attach the HY-CN7 bracket's rear angle bar to the rear bracket of speaker module A.

Use the supplied hex head bolts and nuts.

Fit the spacer (black) into the larger hole in the rear angle bar, then with the angle bar positioned between the 2 plates of rear bracket A, and with holes aligned, insert the bolt through the rightmost hole in the rear bracket, and fasten with the nut.

**Notes**

- This position will act as the fulcrum for angle adjustment. Be sure that the angle bar is fixed in the position indicated in the illustration below. If fixed in a different position, the angle mode will not conform with the specified value.
- Be sure a spacer (black) is fitted into the larger hole in the rear angle bar.

**3-2.** Attach the HY-CN7 Series bracket's rear angle bar to the rear bracket of speaker module B.

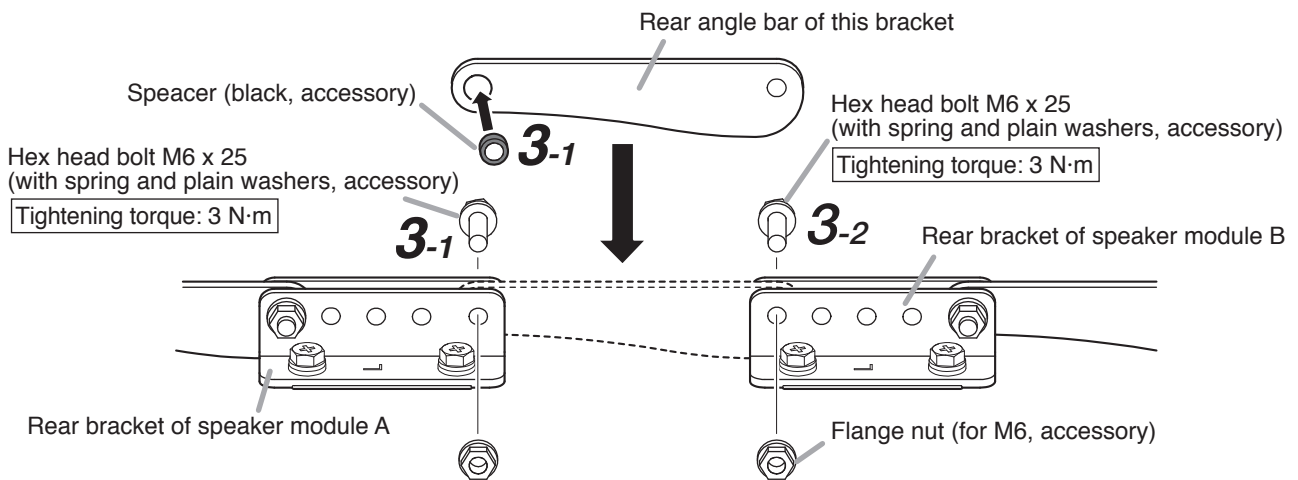
Use the supplied hex head bolt and nut.

Align the rear angle bar with the desired directivity angle mode position, then insert a bolt and fasten with a nut.

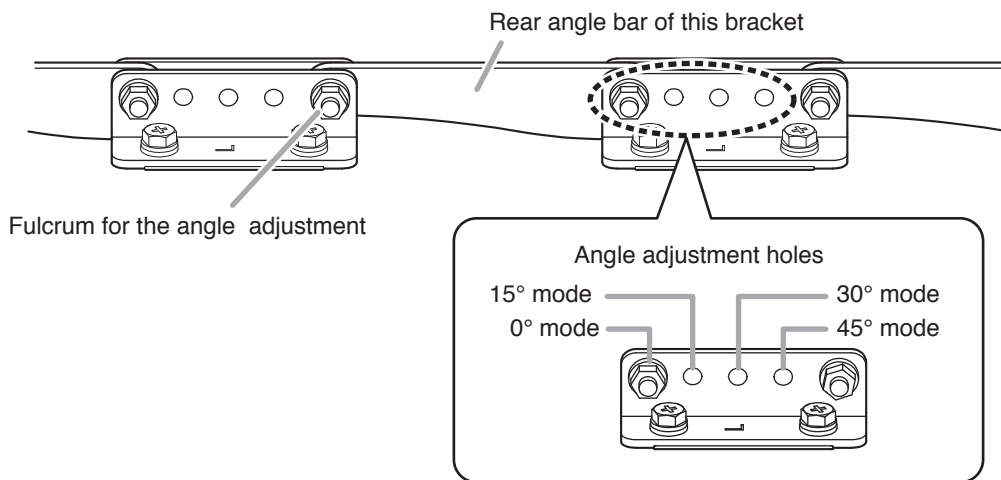
The figure shows a mounting example with 0° mode selected.

**Notes**

- A spacer is not used.
- When a 60° mode is desired, use the optional HY-60D Series Speaker Angle Adjustment Brackets. For details, refer to the installation manual enclosed with the HY-60D Series brackets.



**[Completed installation (0° mode)]**



**Note**

Use a method similar to that described in **Steps 1 – 3** above, even when joining three or four HX-7 Series Speaker Systems.

## 5. INSTALLING JOINED SPEAKER SYSTEMS (Indoor installations only)

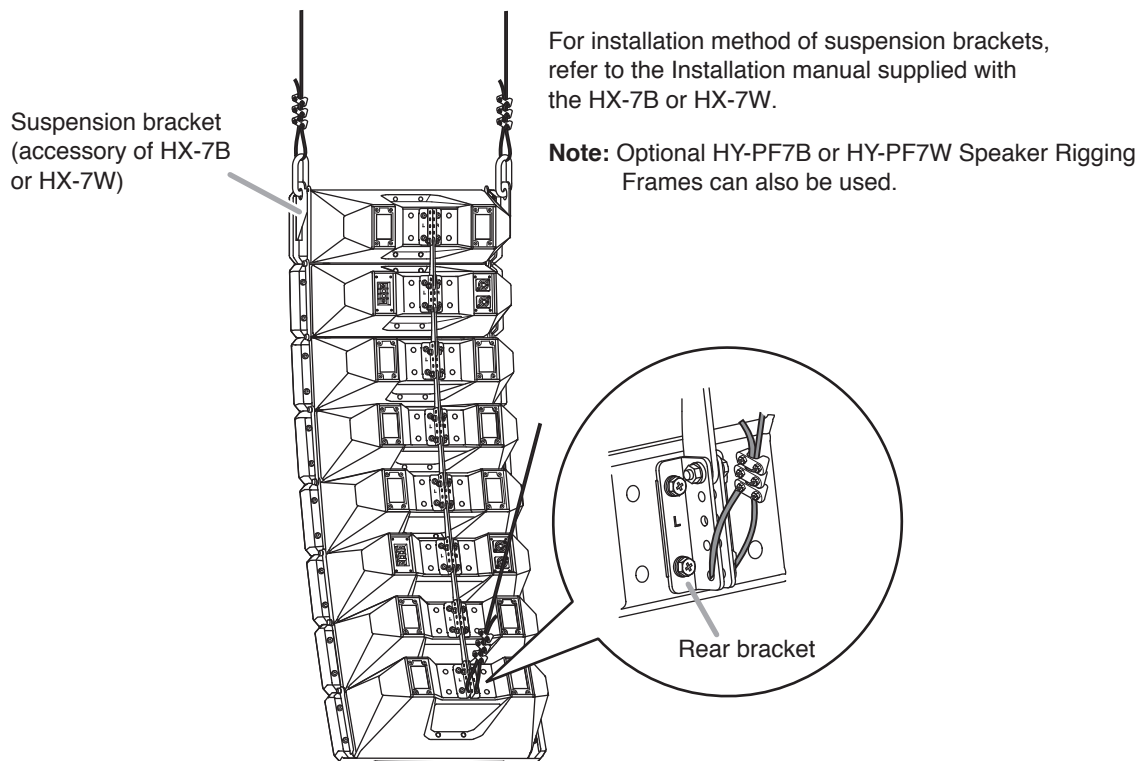
Joined two HX-7B or HX-7W Speaker Systems can be suspended.

Further, up to four HX-7B or HX-7W speakers can be suspended vertically, provided that all specified optional brackets are used and other requirements are met.

### 5.1. Vertically Suspended Installation

#### 5.1.1. Two-speaker installation

After joining together the speaker systems, attach their supplied suspension brackets (2 places) and suspend the joined speaker from the 3 points shown in the figure.

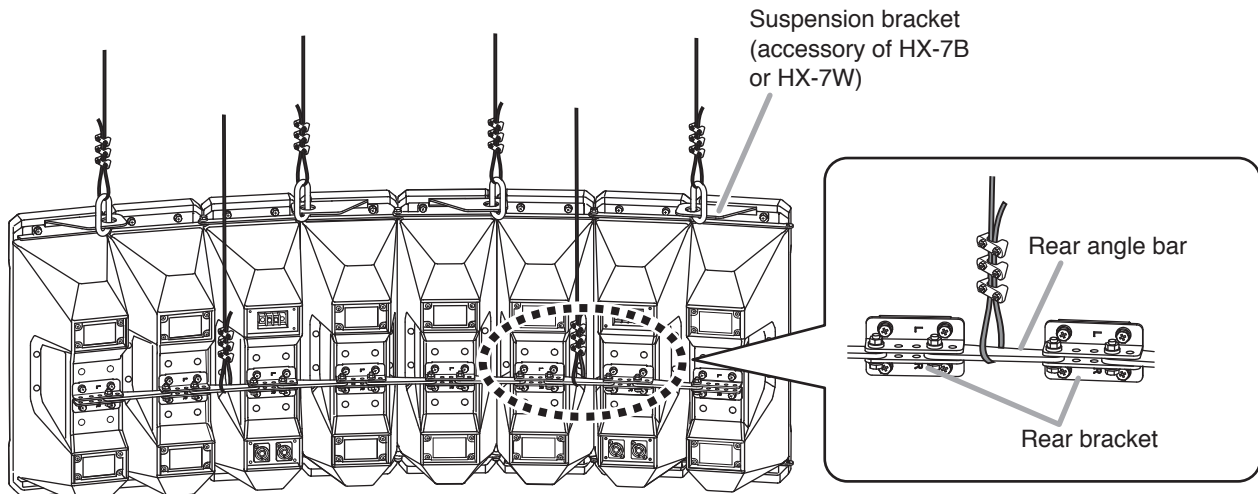


#### 5.1.2. Three- or four-speaker installation

TOA's optional HY-VM7B or HY-VM7B Speaker Mounting Brackets are required for this installation. For details, refer to the installation manual supplied with the HY-VM7B or HY-VM7B brackets.

### 5.2. Horizontally Suspended Installation

After joining together the speaker systems, attach their supplied suspension brackets (4 places) and suspend the joined speaker from the 3 points shown in the figure.



[Installation method of suspension brackets]

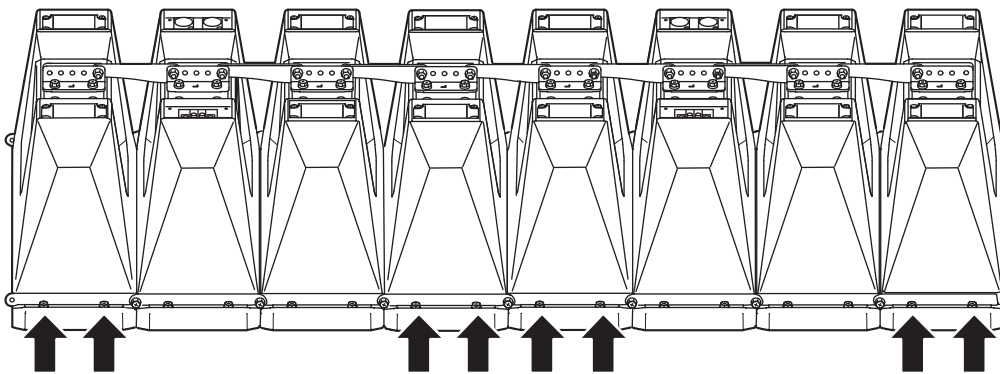
**! WARNING**

Tighten the bolts securely, as instructed below. Failure to follow instructions precisely could result in a falling speaker and potential personal injury.

- Ensure that all bolts are securely inserted as far as their threads go, then securely fasten each bolt with a nut.
- Tighten all the bolts with the designated tightening torque. For tightening, use a Phillips screwdriver, or open- or box-end wrench.

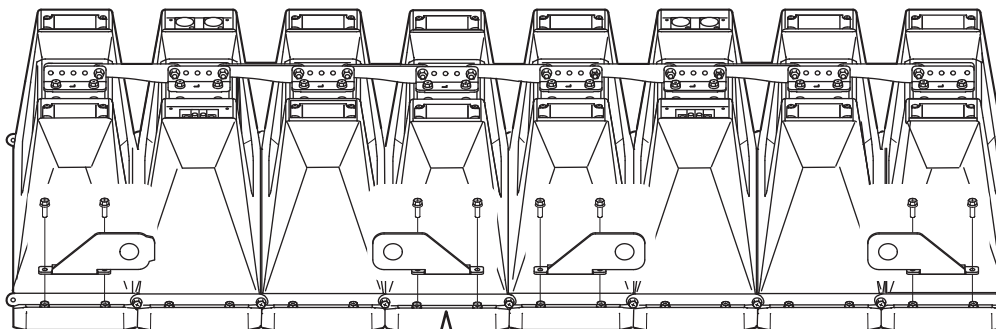
Before installing suspension brackets, lay out a protective sheet, corrugated cardboard or other soft material on a flat surface, and perform all work on the 2 speakers with their front baffles facing downward.

**Step 1.** Remove the side angle plate bolts (indicated by the arrows in the figure below).



**Step 2.** Using the bolts supplied with the speaker, tighten the suspension brackets and side angle plates. Combine the brackets supplied with the 2 speakers, and attach them with the suspension holes facing outward, as shown in the figure below.

**Note:** Do not use the bolts detached in **Step 1**.



Suspension hole

Hex head bolt M6 x 20  
(with spring and plain washers,  
speaker's accessories)

Tightening torque: 3 N·m

Suspension bracket  
(Speaker's accessory)

## 6. SPECIFICATIONS

Model No.	HY-CN7B	HY-CN7W
Finish	Steel plate, black, semi-gross, paint	Steel plate, white, semi-gross, paint
Weight	300 g (0.66 lb)	
Product Composition	Side angle plate ..... 2, Rear angle bar ..... 1	

Model No.	HY-CN7B-WP	HY-CN7W-WP
Finish	Stainless steel, black, semi-gross, paint	Stainless steel, white, semi-gross, paint
Weight	300 g (0.66 lb)	
Product Composition	Side angle plate ..... 2, Rear angle bar ..... 1	

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

### • Accessories

Spacer (golden) .....	2
Spacer (black) .....	1
Rubber ring .....	2
Hex head bolt M6 x 25 with spring and plain washers ....	2
Flange nut for M6 .....	2
Hex head bolt M6 x 12 with spring and plain washers ....	2