

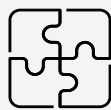
F-BOX Series

The F-BOX Series is a premium line of high-performance surface-mount box speakers designed to elevate your audio experience. Featuring our proprietary speaker units, these speakers deliver exceptional sound quality, sleek aesthetics, and effortless installation. With a variety of options, including 3.5-inch full-range speakers, 5-inch and 8-inch two-way speakers, and 8-inch subwoofers, the F-BOX Series is the perfect choice for any commercial or professional audio application.



Design

Space harmony



Mechanism

Ease of installation



Sound

Flat sound quality

Go-To Speaker for Every Audio Professional

Drawing on over 90 years of sound engineering expertise, the F-BOX Series represents a ground-up redesign that sets new standards in aesthetics, mechanics, and audio performance. These speakers are the ideal choice for any space or application, offering a reliable and versatile solution that stands the test of time.

7.1.2. Base bracket installation dimensions

The number of the mounting holes in the base bracket varies depending on the model and the mounting location, which is a wall (3-point installation) or a ceiling (2- or 4-point installation). Use M6 bolts and nuts for installation.

Unit: mm

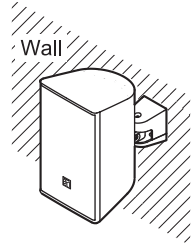
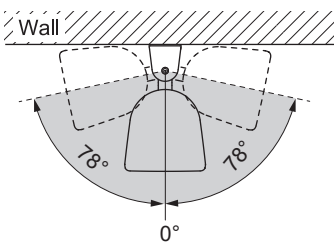
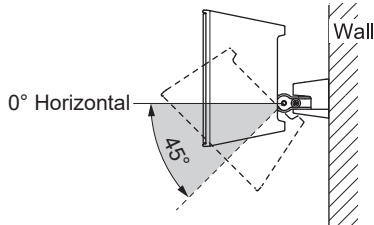
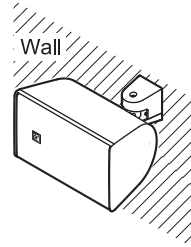
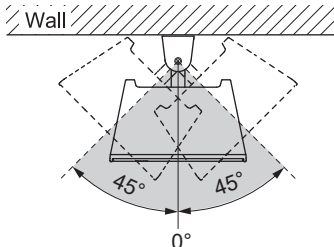
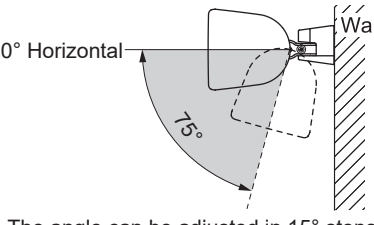
Model	When installing to a wall	When installing to a ceiling
F-03BT F-03WT	[3-point installation] Mounting hole $\phi 6.5$ (0.26") 12.3 (0.48") 26.3 (1.04") 24.6 (0.97") $\phi 32$ (1.26") M6 bolt Mounting hole	[2-point installation] M6 bolt Mounting hole 32 (1.26")
F-05BT F-05WT	[3-point installation] Mounting hole $\phi 6.5$ (0.26") 18.6 (0.73") 30.7 (1.21") 37.2 (1.46") $\phi 42$ (1.65") M6 bolt Mounting hole	[4-point installation] M6 bolt Mounting hole 29.7 (1.17")
F-08BT F-08WT	[3-point installation] Mounting hole $\phi 6.5$ (0.26") 23.5 (0.93") 37 (1.46") 47 (1.85") $\phi 52$ (2.05") M6 bolt Mounting hole	[4-point installation] M6 bolt Mounting hole 36.8 (1.45")

7.2. Range of Speaker Installation Angle

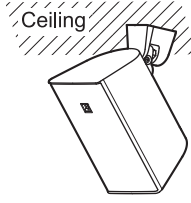
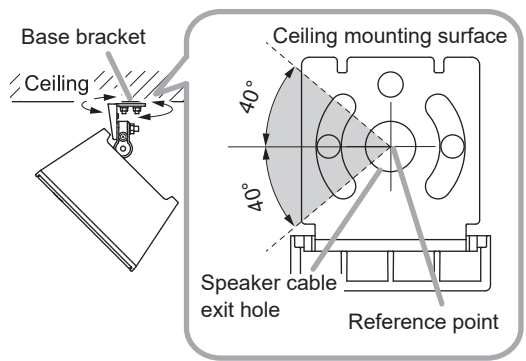
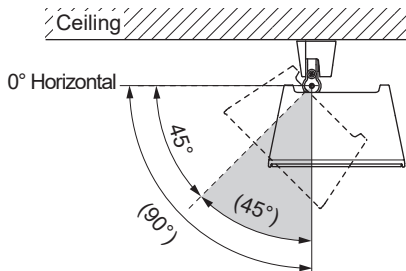
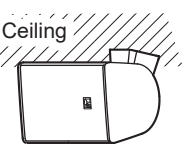
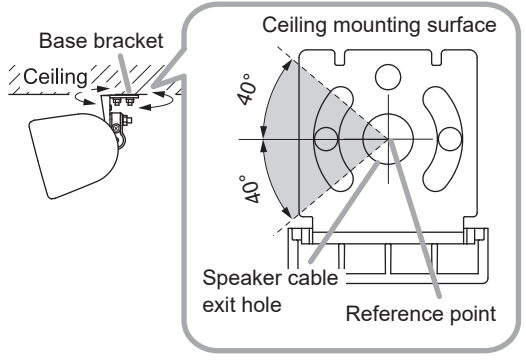
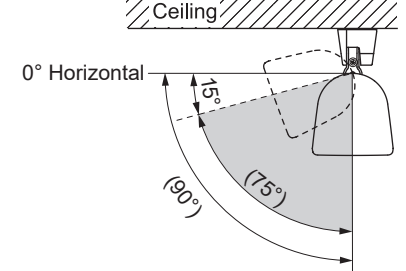
Install the speakers within the shaded  range shown in the table below.

7.2.1. F-03BT, F-03WT

[When installing to a wall]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation		78° left and right from the center of the speaker (Top view) 	0° horizontal to 45° downward (Side view)  The angle can be adjusted in 15° steps.
Horizontal installation		45° left and right from the center of the speaker (Top view) 	0° horizontal to 75° downward (Side view)  The angle can be adjusted in 15° steps.

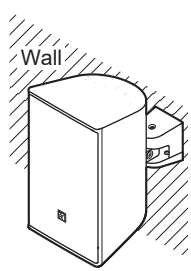
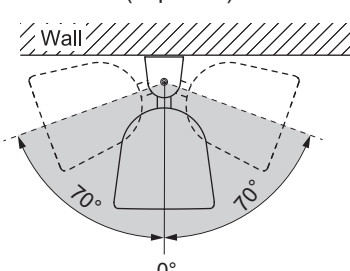
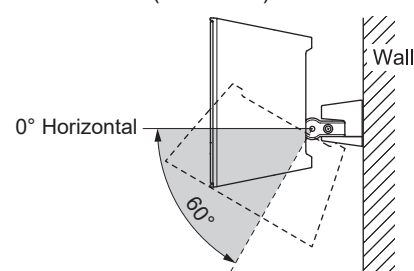
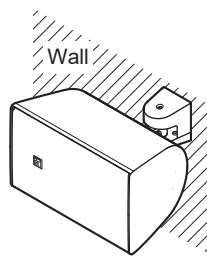
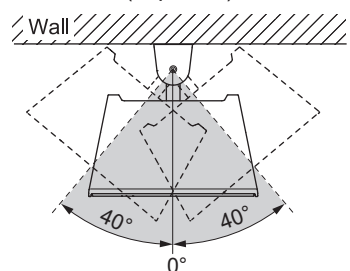
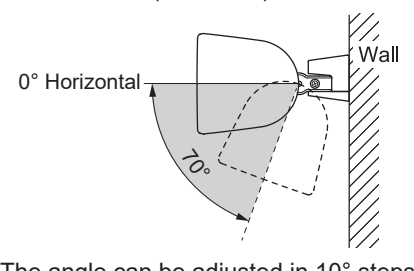
[When installing to a ceiling]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation		40° left and right from the reference point mentioned below* 	45° downward to 90° downward (Side view)  The angle can be adjusted in 15° steps.
Horizontal installation		40° left and right from the reference point mentioned below* 	15° downward to 90° downward (Side view)  The angle can be adjusted in 15° steps.

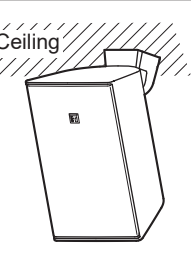
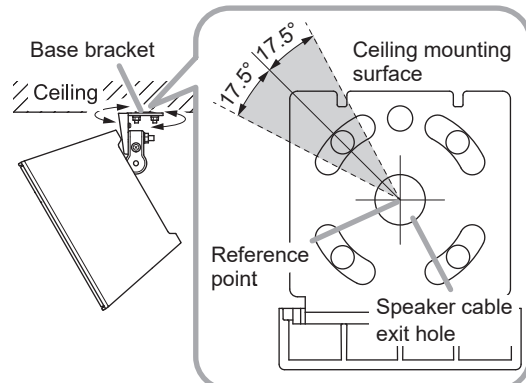
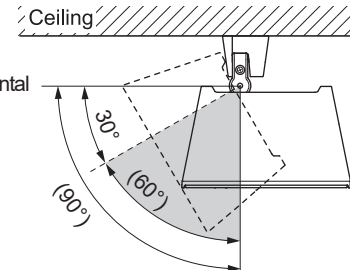
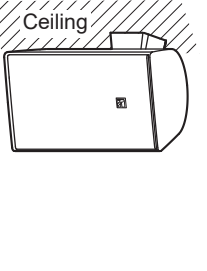
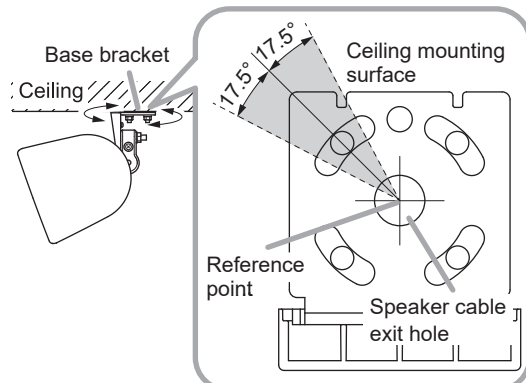
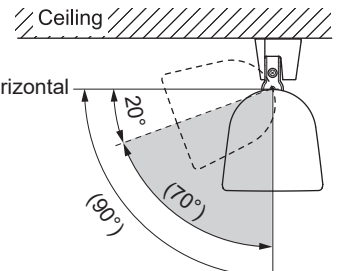
* In the case of the ceiling installation, adjust the horizontal angle by positioning the base bracket.

7.2.2. F-05BT, F-05WT

[When installing to a wall]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation		70° left and right from the center of the speaker (Top view) 	0° horizontal to 60° downward (Side view)  The angle can be adjusted in 10° steps.
Horizontal installation		40° left and right from the center of the speaker (Top view) 	0° horizontal to 70° downward (Side view)  The angle can be adjusted in 10° steps.

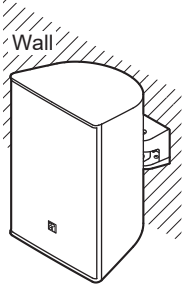
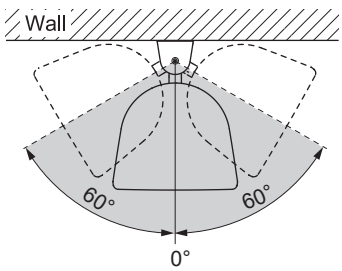
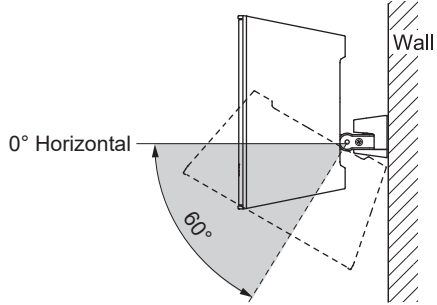
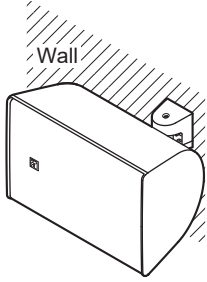
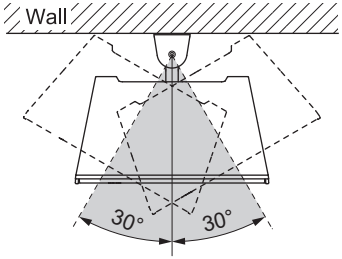
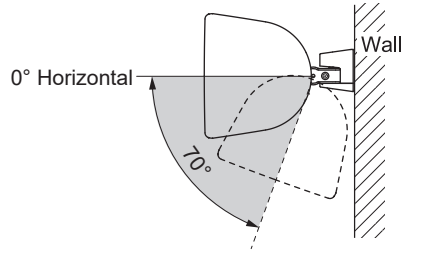
[When installing to a ceiling]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation		17.5° left and right from the reference point mentioned below* 	30° downward to 90° downward (Side view)  The angle can be adjusted in 10° steps.
Horizontal installation		17.5° left and right from the reference point mentioned below* 	20° downward to 90° downward (Side view)  The angle can be adjusted in 10° steps.

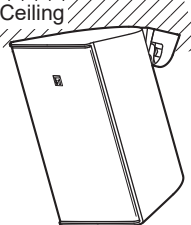
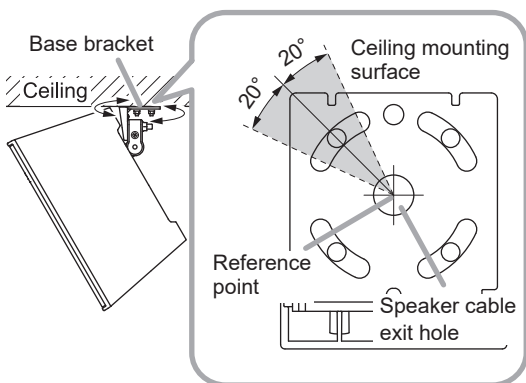
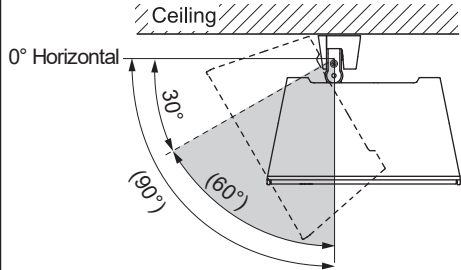
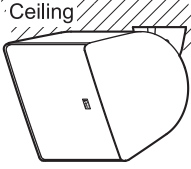
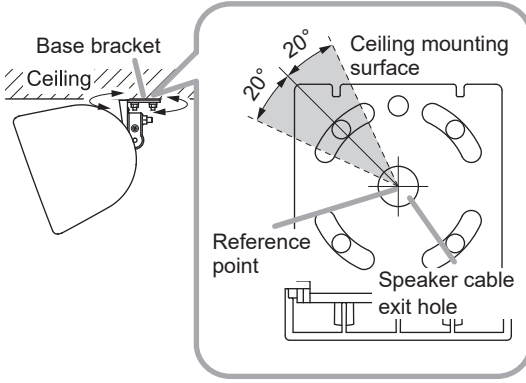
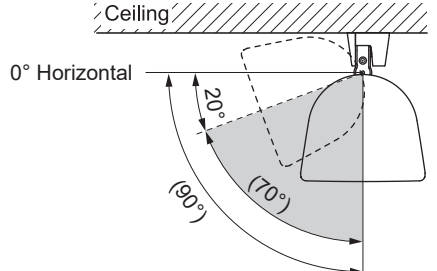
* In the case of the ceiling installation, adjust the horizontal angle by positioning the base bracket.

7.2.3. F-08BT, F-08WT

[When installing to a wall]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation		60° left and right from the center of the speaker (Top view) 	0° horizontal to 60° downward (Side view)  The angle can be adjusted in 10° steps.
Horizontal installation		30° left and right from the center of the speaker (Top view) 	0° horizontal to 70° downward (Side view)  The angle can be adjusted in 10° steps.

[When installing to a ceiling]

	Installation examples	Horizontal angle adjustment range	Vertical angle adjustment range
Vertical installation	 	20° left and right from the reference point mentioned below*	30° downward to 90° downward (Side view)  The angle can be adjusted in 10° steps.
Horizontal installation	 	20° left and right from the reference point mentioned below*	20° downward to 90° downward (Side view)  The angle can be adjusted in 10° steps.

* In the case of the ceiling installation, adjust the horizontal angle by positioning the base bracket.

7.3. Wall Mounting

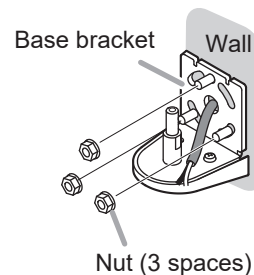
Note

The figures are examples of the F-05BT or F-05WT.

Step 1. Mount the supplied base bracket on the wall.

Notes

- Bolts and nuts used for mounting the base bracket to the wall are not supplied. Use M6 bolts and nuts.
- For the installation location and dimension of the base bracket, see "Using the Supplied Brackets" on p. 8.
- Be sure to mount the base bracket to the wall using 3 or more bolts as shown in the figure at right.



Step 2. Attach a safety wire to the rear surface of the speaker.



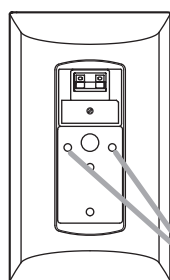
WARNING

- Install the safety wire on the wall side to a location that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Use a safety wire that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Keep the safety wire at the minimum length without slack.

Note

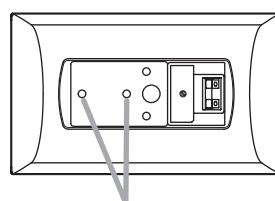
The safety wire is not supplied. Prepare it separately.

[Vertical installation]



Install the safety wire to either of the holes.

[Horizontal installation]



Install the safety wire to either of the holes.

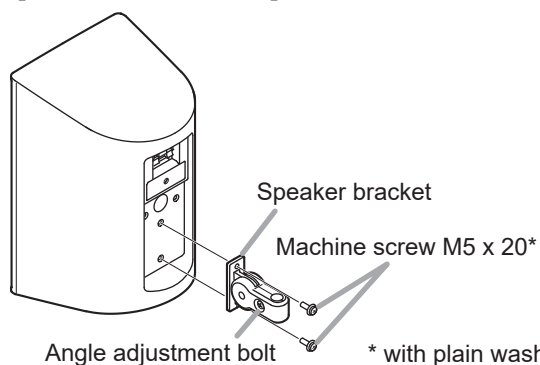
Step 3. Secure the speaker bracket to the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 2 N·m

Note

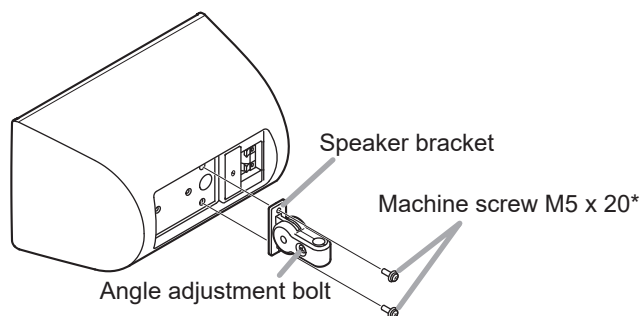
The speaker bracket can also be mounted upside down.

As the angle adjustment bolt is only provided on one side of the speaker bracket, install the bracket in the direction so that you can easily access the bolt for adjusting the speaker angle in **Steps 5** and **6** after installing the speaker bracket to the base bracket in **Step 4**.

[Vertical installation]



[Horizontal installation]



Step 4. Install the speaker bracket to the base bracket.

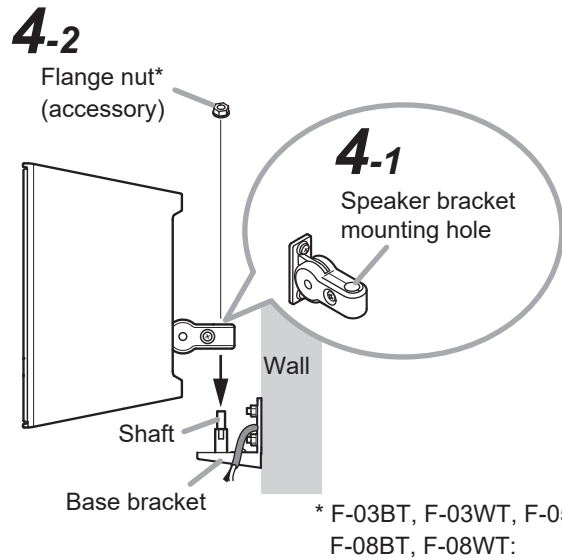
4-1. Insert the mounting hole in the speaker bracket onto the shaft of the base bracket fixed in **Step 1**.

4-2. To prevent the speaker from falling, temporarily fasten the speaker bracket and the base bracket with the supplied flange nut.

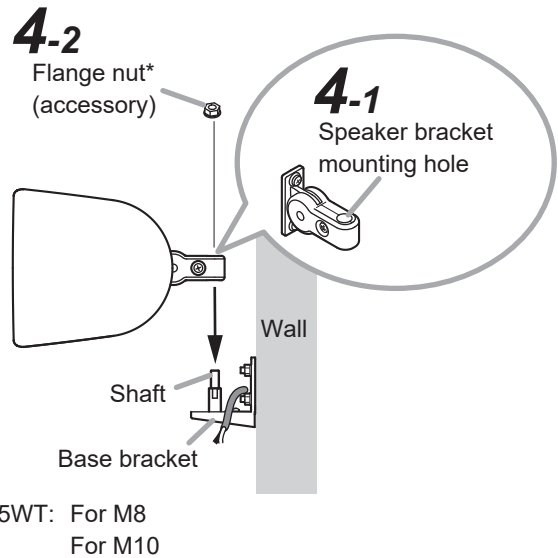
Note

Be sure to use the supplied flange nut.

[Vertical installation]



[Horizontal installation]



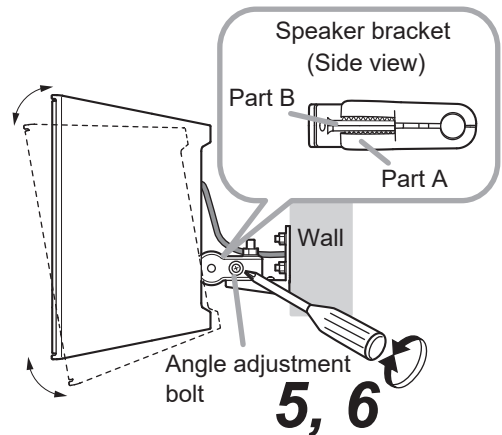
Step 5. Adjust the vertical angle by gradually loosening the angle adjustment bolt of the speaker bracket.

- The speaker bracket is divided into part A and part B, which are secured with the angle adjustment bolt. The vertical angle is adjusted in the interlocking section of the parts A and B.

Note

Never remove the angle adjustment bolt or loosen it too much so that the parts A and B come off.

- For the angle adjustment range, see "Range of Speaker Installation Angle" on p. 10.
- Be sure to perform installation work while supporting the speaker with one hand.



The figure represents the vertical installation.

Step 6. Tighten the angle adjustment bolt.
Recommended tightening torque: 2 N·m

Note

Check that the parts A and B of the speaker bracket are firmly engaged.

Step 7. Connect the speaker cable to the input terminal. (See p. 7.)

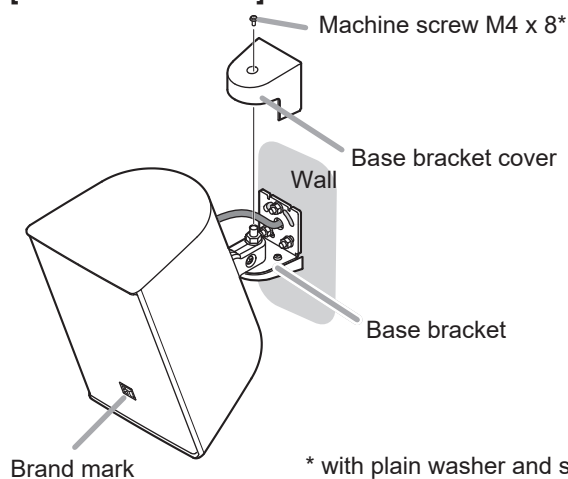
Step 8. Adjust the horizontal angle of the speaker around the shaft of the base bracket as the axis, then firmly tighten the flange nut temporarily tightened in **Step 4-2**.

[Recommended tightening torque]

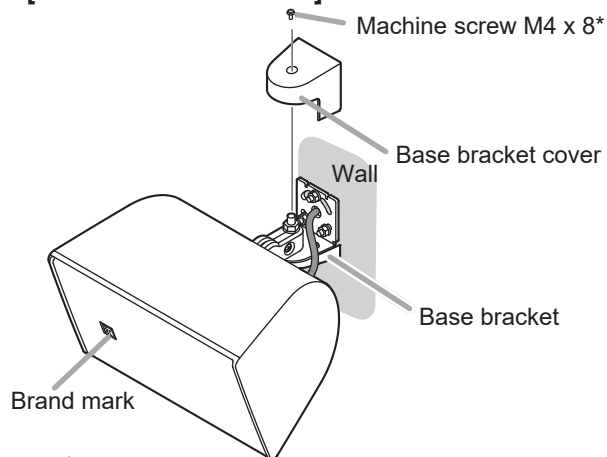
F-03BT, F-03WT, F-05BT, F-05WT: 10 N·m
F-08BT, F-08WT: 20 N·m

Step 9. Attach the supplied base bracket cover to the base bracket using the supplied screw.
Recommended tightening torque: 1 N·m
Put the wiring cable into the base bracket cover taking care not to apply excessive force.

[Vertical installation]



[Horizontal installation]



* with plain washer and spring washer, accessory

Tip

The brand mark is attached to the speaker's front grille with the double-sided adhesive tape. You can change the orientation of the brand mark, if needed. In this case, peel off the brand mark slowly and carefully, then you can reattach it after changing its orientation.

7.4. Ceiling Mounting

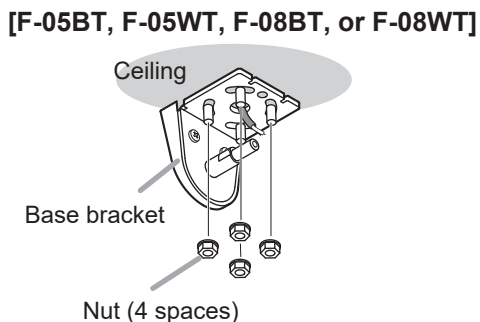
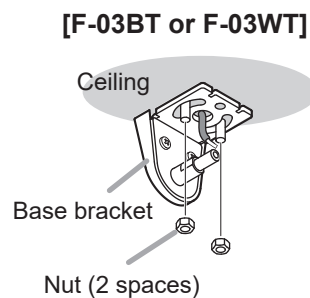
Note

The figures from Step 2 onward are examples of the F-05BT or F-05WT.

Step 1. Temporarily secure the supplied base bracket to the ceiling.

Notes

- Bolts and nuts used for mounting the base bracket to the ceiling are not supplied. Use M6 bolts and nuts.
- For the installation location and dimension of the base bracket, see "Using the Supplied Brackets" on p. 8.
- Be sure to mount the base bracket to the ceiling using 2 or 4 bolts as shown in the figures below.



The figure represents the base bracket of F-05BT or F-05WT.

Step 2. Attach a safety wire to the rear surface of the speaker.



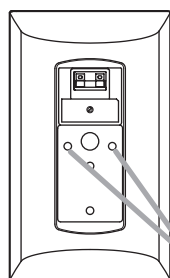
WARNING

- Install the safety wire on the ceiling side to a location that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Use a safety wire that is strong enough to withstand the entire weight of the speaker including the mounting brackets.
- Keep the safety wire at the minimum length without slack.

Note

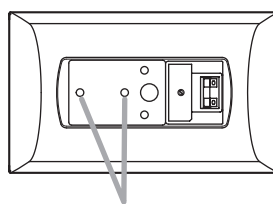
The safety wire is not supplied. Prepare it separately.

[Vertical installation]



Install the safety wire to either of the holes.

[Horizontal installation]



Install the safety wire to either of the holes.

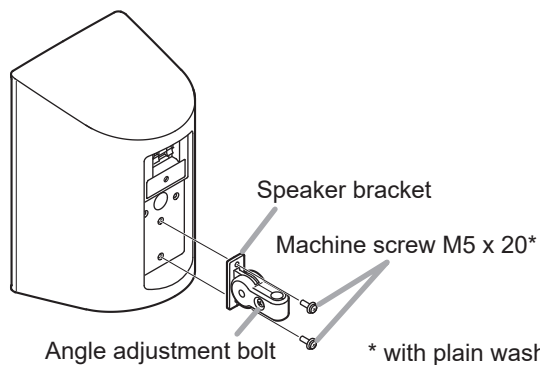
Step 3. Secure the speaker bracket to the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 2 N·m

Note

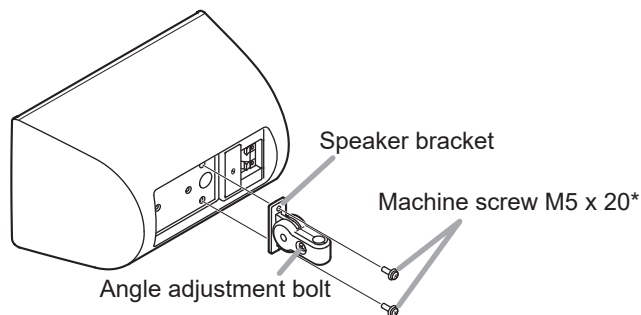
The speaker bracket can also be mounted upside down.

As the angle adjustment bolt is only provided on one side of the speaker bracket, install the bracket in the direction so that you can easily access the bolt for adjusting the speaker angle in **Steps 5** and **6** after installing the speaker bracket to the base bracket in **Step 4**.

[Vertical installation]



[Horizontal installation]



Step 4. Temporarily fix the speaker bracket to the base bracket.

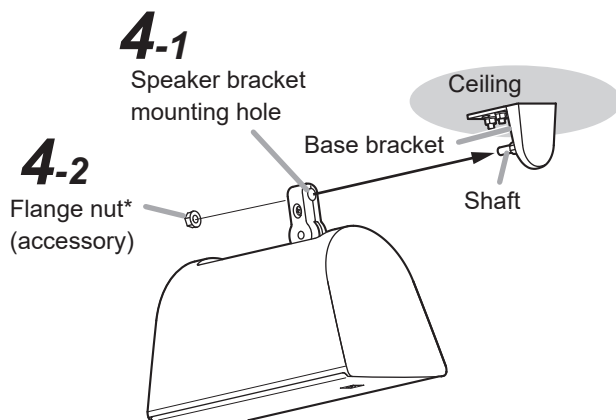
4-1. Insert the mounting hole in the speaker bracket onto the shaft of the base bracket fixed in **Step 1**.

4-2. Temporarily fasten the speaker bracket and the base bracket with the supplied flange nut.

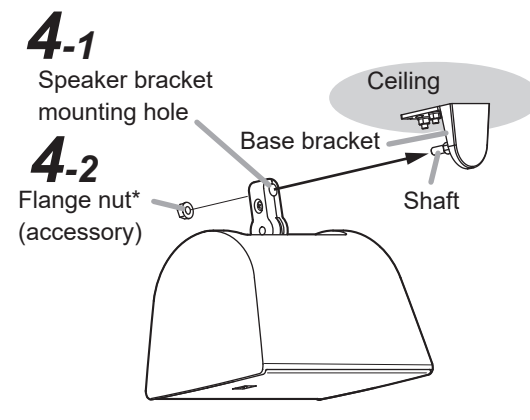
Note

Be sure to use the supplied flange nut.

[Vertical installation]



[Horizontal installation]



* F-03BT, F-03WT, F-05BT, F-05WT: For M8
F-08BT, F-08WT: For M10

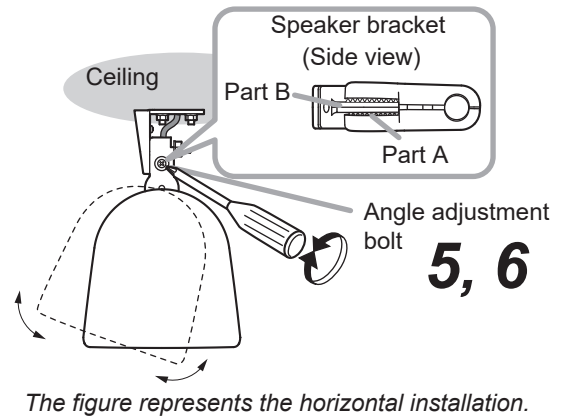
Step 5. Adjust the vertical angle by gradually loosening the angle adjustment bolt of the speaker bracket.

- The speaker bracket is divided into part A and part B, which are secured with the angle adjustment bolt. The vertical angle is adjusted in the interlocking section of the parts A and B.

Note

Never remove the angle adjustment bolt or loosen it too much so that the parts A and B come off.

- For the angle adjustment range, see "Range of Speaker Installation Angle" on p. 10.
- Be sure to perform installation work while supporting the speaker with one hand.



Step 6. Tighten the angle adjustment bolt.
Recommended tightening torque: 2 N·m

Note

Check that the parts A and B of the speaker bracket are firmly engaged.

Step 7. Connect the speaker cable to the input terminal. (See p. 7.)

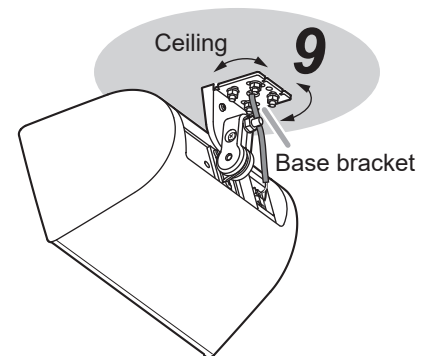
Step 8. Secure the speaker bracket to the base bracket by firmly tightening the flange nut temporarily tightened in **Step 4-2**.

[Recommended tightening torque]

F-03BT, F-03WT, F-05BT, F-05WT: 10 N·m

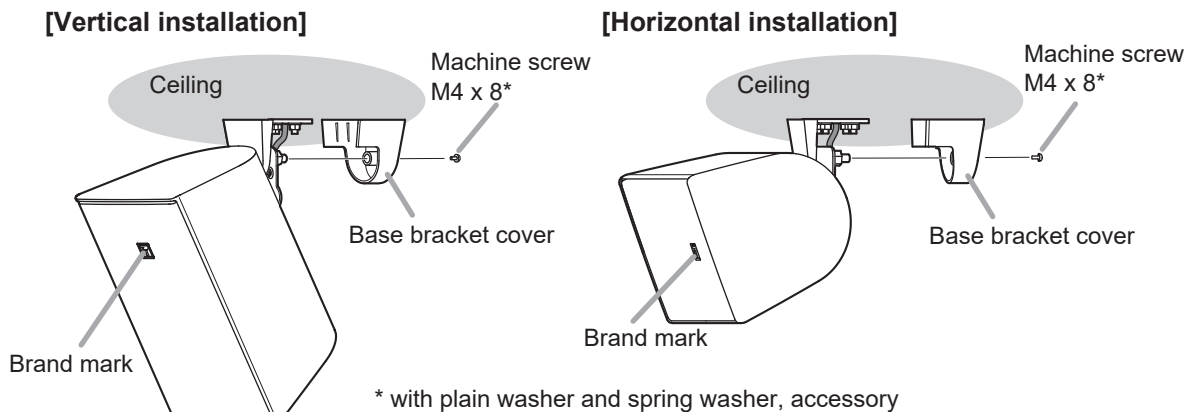
F-08BT, F-08WT: 20 N·m

Step 9. Adjust the horizontal angle by moving the base bracket as shown in the figure at right.
For the angle adjustment range, see "Range of Speaker Installation Angle" on p. 10.



Step 10. Firmly tighten the nuts temporarily tightened in **Step 1** to secure the base bracket to the ceiling.
Recommended tightening torque: 10 N·m

Step 11. Attach the supplied base bracket cover to the base bracket using the supplied screw.
Recommended tightening torque: 1 N·m
Put the wiring cable into the base bracket cover taking care not to apply excessive force.



Tip

The brand mark is attached to the speaker's front grille with the double-sided adhesive tape. You can change the orientation of the brand mark, if needed. In this case, peel off the brand mark slowly and carefully, then you can reattach it after changing its orientation.

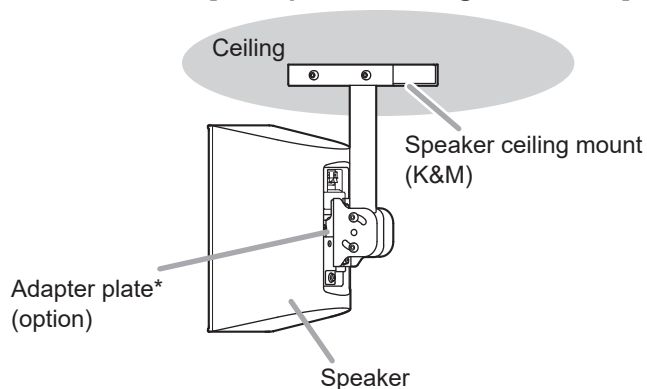
8. INSTALLATION EXAMPLES USING THE OPTIONAL ADAPTER PLATES

You can install the speaker as shown in the examples below using the optional adapter plate*. For the installation method, refer to the installation manual supplied with the adapter plate.

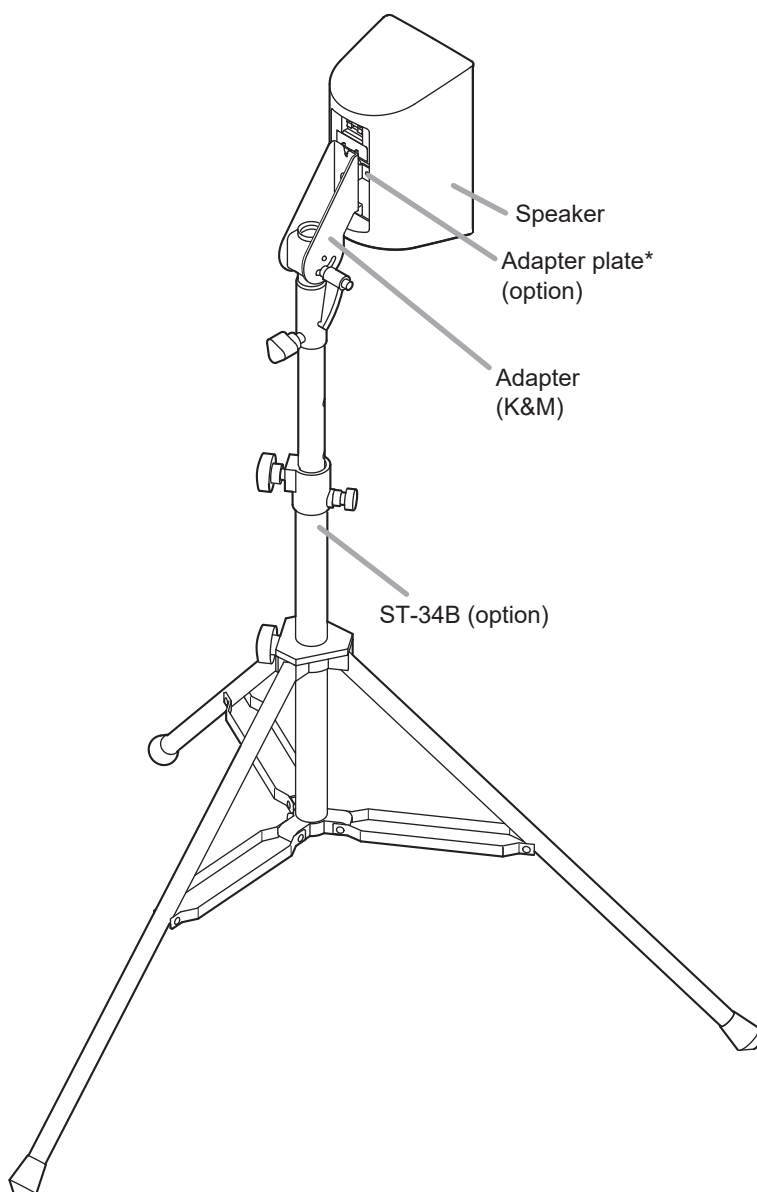
* The applicable adapter plate varies depending on the speaker system.

Model	Adapter plate
F-03BT	HY-F03B
F-03WT	HY-F03W
F-05BT	HY-F05B
F-05WT	HY-F05W
F-08BT	HY-F08B
F-08WT	HY-F08W

[Example of a ceiling installation]



[Example of a speaker stand installation]



9. SPECIFICATIONS

9.1. F-03BT, F-03WT

Model No.		F-03BT	F-03WT
Enclosure		Bass-reflex type	
Power Handling Capacity* ¹		Rated noise power: 30 W (8 Ω) Continuous program: 60 W (8 Ω)	
Rated Input		15 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 670 Ω (15 W), 2 kΩ (5 W), 3.3 kΩ (3 W), 10 kΩ (1 W) 70 V line: 330 Ω (15 W), 670 Ω (7.5 W), 2 kΩ (2.5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.5 W)	
Sensitivity		87 dB (1 W, 1 m) at installation in 1/2 free sound field	
Frequency Response		85 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Speaker Component		9 cm (3.5") Full-range, PP cone-type	
Input Terminal		Push-in terminal	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Installation Environment		Indoor installation	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	Speaker bracket	Die-cast aluminum, black* ² , paint	Die-cast aluminum, white* ³ , paint
	Base bracket	Steel plate, t4, black* ² , paint	Steel plate, t4, white* ³ , paint
	Base bracket cover	HIPS, black* ²	HIPS, white* ³
Dimensions		130 (w) x 221 (h) x 132 (d) mm (5.12" x 8.7" x 5.2")	
Weight		1.7 kg (3.75 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

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

• Accessories

Speaker bracket	1
Base bracket	1
Base bracket cover	1
Machine screw M4 x 8 (with plain washer and spring washer)	1
Machine screw M5 x 20 (with plain washer and spring washer) ...	2
Flange nut for M8	1

9.2. F-05BT, F-05WT

Model No.		F-05BT	F-05WT
Enclosure		Bass-reflex type	
Power Handling Capacity* ¹		Rated noise power: 60 W (8 Ω) Continuous program: 120 W (8 Ω)	
Rated Input		30 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 330 Ω (30 W), 1 kΩ (10 W), 3.3 kΩ (3 W), 10 kΩ (1 W) 70 V line: 170 Ω (30 W), 330 Ω (15 W), 1 kΩ (5 W), 3.3 kΩ (1.5 W), 10 kΩ (0.5 W)	
Sensitivity		90 dB (1 W, 1 m) at installation in 1/2 free sound field	
Frequency Response		60 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Crossover Frequency		4.5 kHz	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Speaker Component		Low frequency: 13 cm (5") PP cone-type High frequency: 25 mm (1") dome tweeter	
Input Terminal		Push-in terminal	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Installation Environment		Indoor installation	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	Speaker bracket	Die-cast aluminum, black* ² , paint	Die-cast aluminum, white* ³ , paint
	Base bracket	Steel plate, t4, black* ² , paint	Steel plate, t4, white* ³ , paint
	Base bracket cover	HIPS, black* ²	HIPS, white* ³
Dimensions		162 (w) x 274 (h) x 164 (d) mm (6.38" x 10.79" x 6.46")	
Weight		2.7 kg (5.95 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

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

• Accessories

Speaker bracket	1
Base bracket	1
Base bracket cover	1
Machine screw M4 x 8 (with plain washer and spring washer)	1
Machine screw M5 x 20 (with plain washer and spring washer) ...	2
Flange nut for M8	1

9.3. F-08BT, F-08WT

Model No.		F-08BT	F-08WT
Enclosure		Bass-reflex type	
Power Handling Capacity* ¹		Rated noise power: 90 W (8 Ω) Continuous program: 180 W (8 Ω)	
Rated Input		60 W (100 V line, 70 V line)	
Rated Impedance		8 Ω 100 V line: 170 Ω (60 W), 330 Ω (30 W), 670 Ω (15 W), 3.3 kΩ (3 W), 70 V line: 83 Ω (60 W), 170 Ω (30 W), 330 Ω (15 W), 670 Ω (7.5 W), 3.3 kΩ (1.5 W)	
Sensitivity		91 dB (1 W, 1 m) at installation in 1/2 free sound field	
Frequency Response		50 Hz – 20 kHz, –10 dB at installation in 1/2 free sound field	
Crossover Frequency		3 kHz	
Directivity Angle		Horizontal: 100°, Vertical: 100°	
Speaker Component		Low frequency: 20 cm (8") PP cone-type High frequency: 25 mm (1") dome tweeter	
Input Terminal		Push-in terminal	
Operating Temperature		–10 to +50 °C (14 to 122 °F)	
Installation Environment		Indoor installation	
Finish	Enclosure	HIPS, black* ² , paint	HIPS, white* ³ , paint
	Grille	Aluminum, black* ² , paint	Aluminum, white* ³ , paint
	Speaker bracket	Die-cast aluminum, black* ² , paint	Die-cast aluminum, white* ³ , paint
	Base bracket	Steel plate, t4.5, black* ² , paint	Steel plate, t4.5, white* ³ , paint
	Base bracket cover	HIPS, black* ²	HIPS, white* ³
Dimensions		251 (w) x 392 (h) x 216 (d) mm (9.88" x 15.43" x 8.5")	
Weight		5.2 kg (11.46 lb)	

*¹ Rated noise power is defined by IEC60268-5. Continuous program is 3 dB above Rated noise power.

*² RAL 9011 equivalent

*³ RAL 9016 equivalent

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

• Accessories

Speaker bracket	1
Base bracket	1
Base bracket cover	1
Machine screw M4 x 8 (with plain washer and spring washer)	1
Machine screw M5 x 20 (with plain washer and spring washer) ...	2
Flange nut for M10	1

