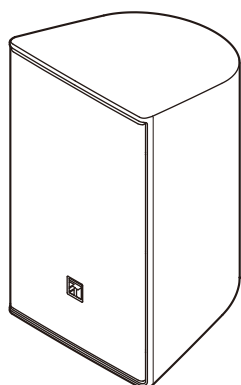




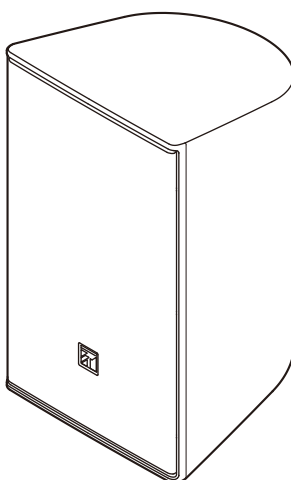
INSTRUCTION MANUAL

SPEAKER SYSTEM

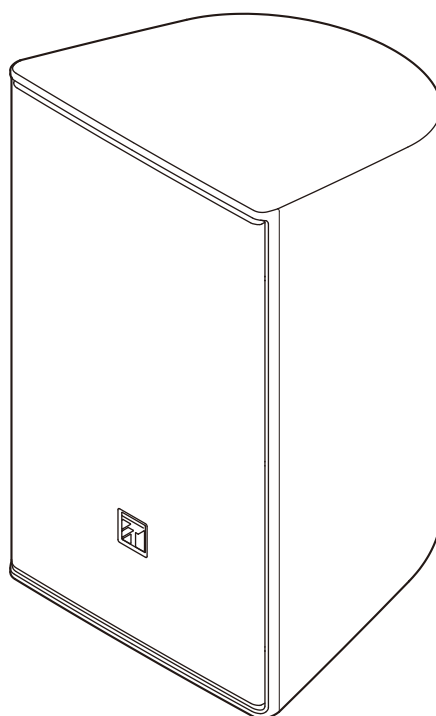
F-03BT, F-03WT
F-05BT, F-05WT
F-08BT, F-08WT



F-03BT, F-03WT



F-05BT, F-05WT



F-08BT, F-08WT

Thank you for purchasing TOA's Speaker System.

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.

- Install the speaker only in a location that can structurally support the weight of the speaker and the mounting bracket. Doing otherwise may result in the speaker falling down and causing personal injury and/or property damage.
- Since the speaker 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.
- (F-08BT and F-08WT only)
Owing to the speaker's size and weight, be sure that at least two persons are available to install the speaker. Failure to do so could result in personal injury.
- Do not use other methods than specified to mount the bracket. Extreme force is applied to the speaker and the speaker could fall off, possibly resulting in personal injuries.
- Attach the safety wire to the speaker. If not attached, the speaker could fall off, resulting in personal injury.
- Use nuts and bolts that are appropriate for the ceiling's or wall's structure and composition. 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 speaker or component to fall off, resulting in personal injury.
- Do not mount the speaker in locations exposed to constant vibration. The mounting bracket can be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.

- 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 near the seashore or in locations where corrosive gas is generated, such as swimming pool facilities. If installed in such environments, its mounting bracket may rust or corrode. This could cause the speaker to fall, potentially 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 speaker's sharp metal edge to prevent injury.
- To avoid electric shocks, be sure to switch off the amplifier's power when connecting speakers.
- Do not place heavy objects on the speaker as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Do not operate the speaker 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 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 its mounting bracket that could cause the speaker to fall, possibly causing personal injury.

2. GENERAL DESCRIPTION AND FEATURES

- Compact speakers with high quality sound that can suit a wide range of scenes such as background music and announcement use.
- The table below shows the differences among models of the F-03BT/03WT, the F-05BT/05WT, and the F-08BT/08WT.

Model	Speaker unit
F-03BT (Black), F-03WT (White)	Full range (9 cm or 3.5" speaker)
F-05BT (Black), F-05WT (White)	2-way (13 cm or 5" woofer and 25 mm or 1" dome tweeter)
F-08BT (Black), F-08WT (White)	2-way (20 cm or 8" woofer and 25 mm or 1" dome tweeter)

- Excellent design of speakers that can blend with a wide variety of architectural styles, making the speakers ideal for installation in various scenes.
- Supplied mounting brackets and optional adapter brackets allow the speakers to fit the installation location and the application.
 - The supplied mounting bracket can be installed to a wall or ceiling, enabling the adjustment of the speaker's orientation vertically and horizontally.
 - The optional adapter plate allows the speaker to be installed on a speaker stand.
- Additionally, ease of installation as the speaker's position can easily be set or reset, allowing both hands to be free for adjustments or wiring.

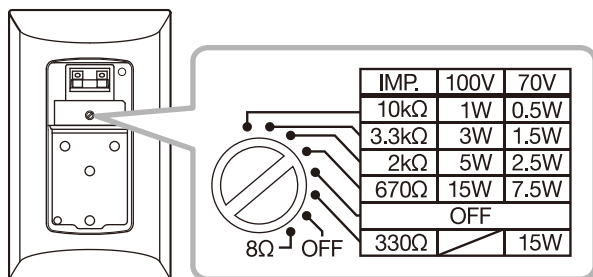
3. HANDLING PRECAUTIONS

- Only install the speaker in locations with an ambient operating temperature range of -10 to $+50$ °C (14 to 122 °F). Failure to follow this instruction could result in speaker malfunction or failure.
- The range of the speaker installation angles varies depending on the installation location and the orientation of the mounting bracket.
For the speaker installation angle, see "Range of Speaker Installation Angle" on p. 10.

4. IMPEDANCE CHANGE

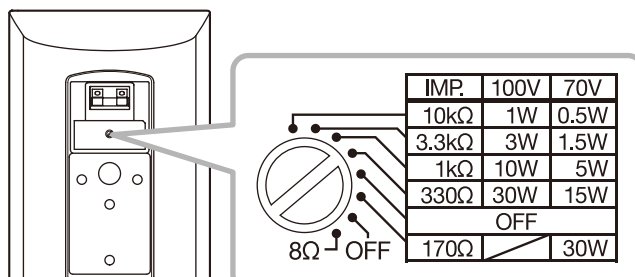
To change the impedance, use a standard screwdriver to rotate the rotary switch on the speaker's rear to select the desired input power.

[F-03BT or F-03WT]



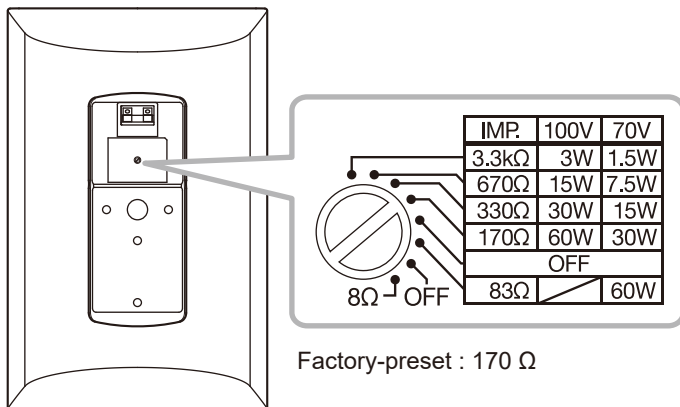
Factory-preset : 670 Ω

[F-05BT or F-05WT]



Factory-preset : 330 Ω

[F-08BT or F-08WT]



Factory-preset : 170 Ω

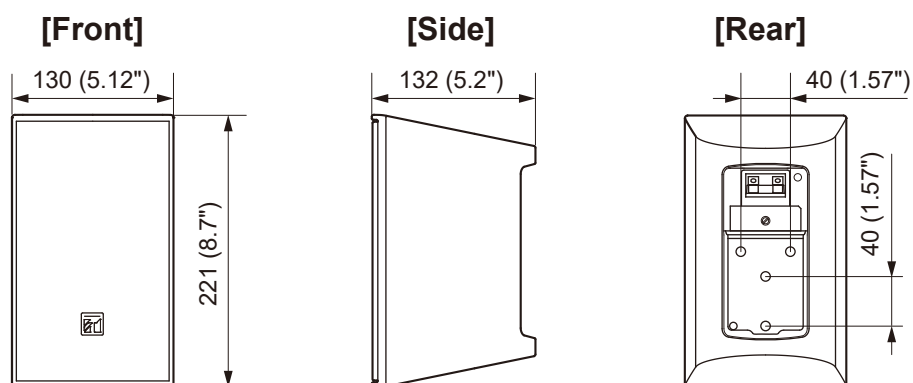
Note

Never set the switch to "⚡" position for 100 V line operation, as doing so may result in damage to the speaker.

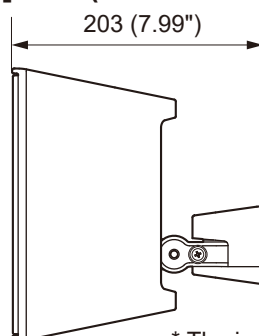
5. DIMENSIONAL DIAGRAM

5.1. F-03BT, F-03WT

Unit: mm



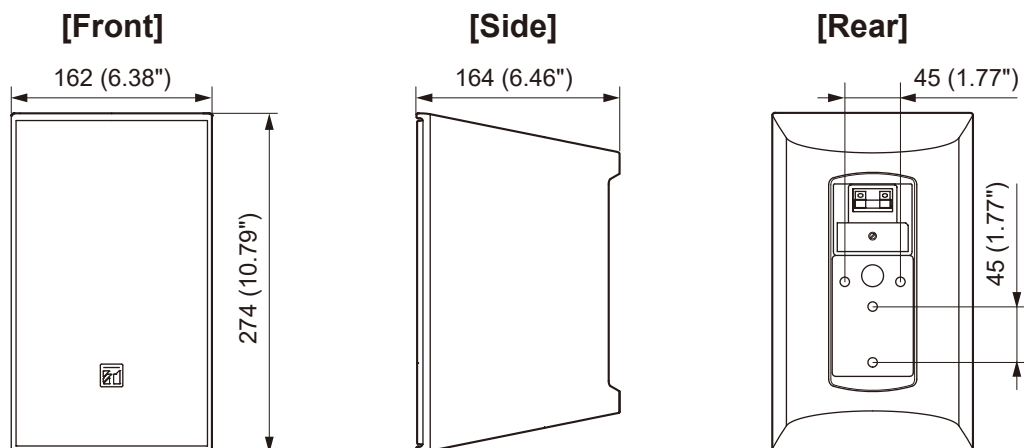
[Side (with bracket)*]



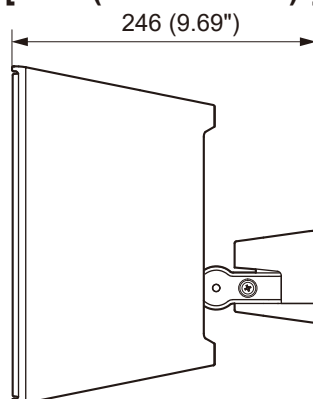
* The installation position of the bracket is for vertical installation.

5.2. F-05BT, F-05WT

Unit: mm



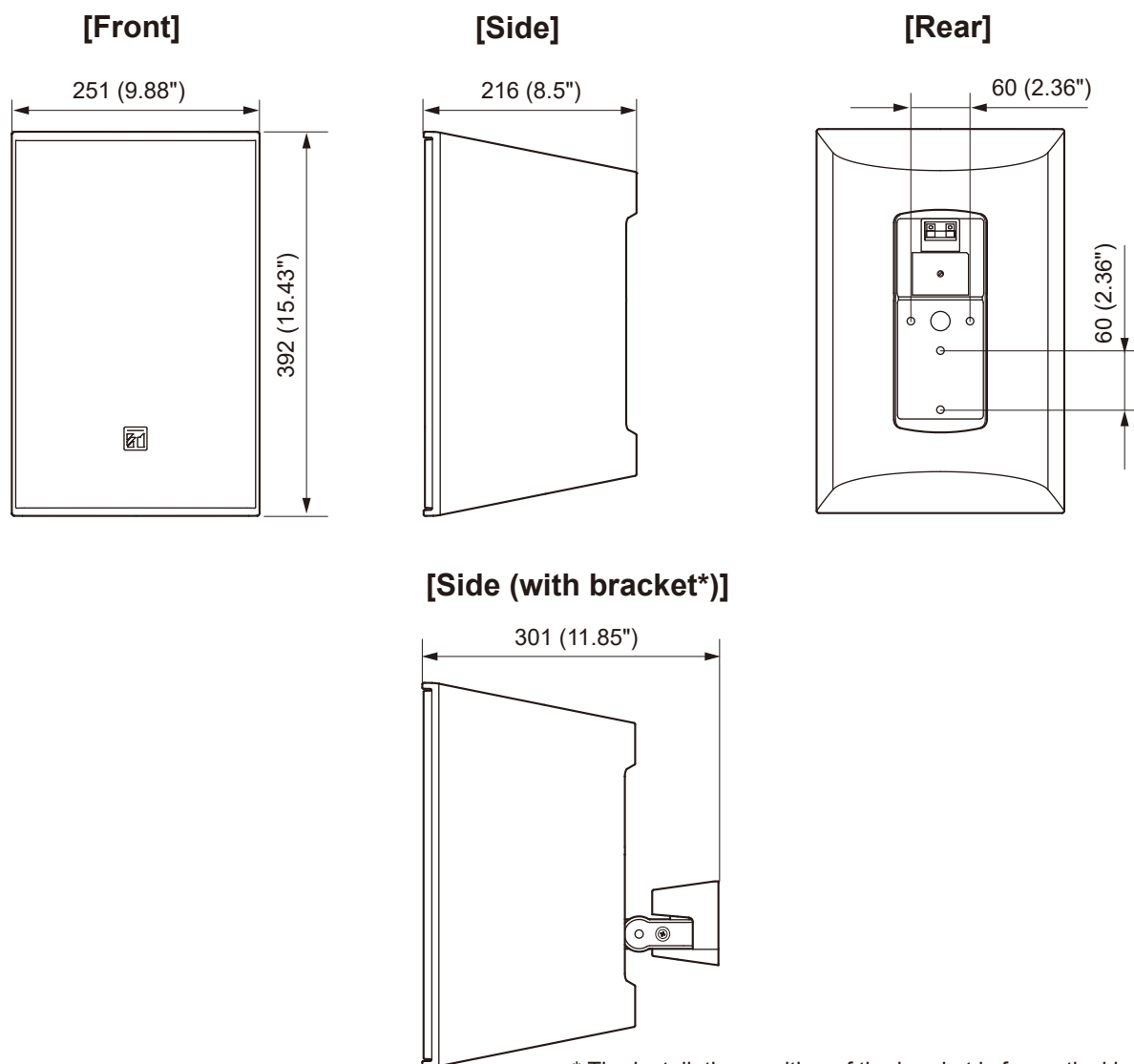
[Side (with bracket)*]



* The installation position of the bracket is for vertical installation.

5.3. F-08BT, F-08WT

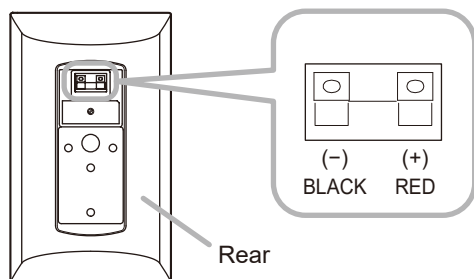
Unit: mm



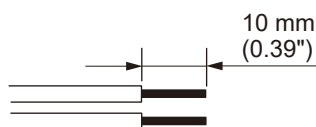
* The installation position of the bracket is for vertical installation.

6. SPEAKER CABLE CONNECTIONS

[Input terminal polarity]



[Stripped conductor of cable]



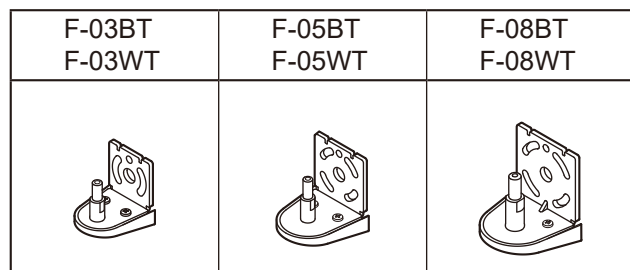
The figure represents the F-05BT or F-05WT.

7. INSTALLATION

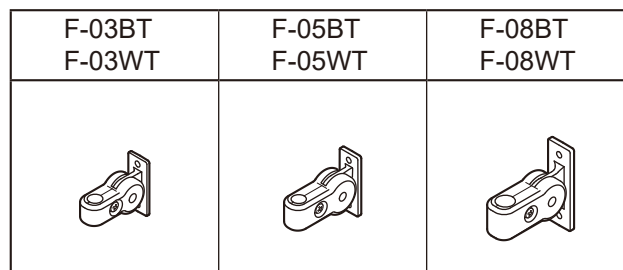
7.1. Using the Supplied Brackets

The speaker system is supplied with the following brackets.

- Base bracket: Used when installing the speaker to a wall or ceiling



- Speaker brackets: To be attached to the speaker's rear surface



7.1.1. Installation Location of the Base Bracket

When installing the base bracket to a wall or ceiling, refer to the installation location diagrams and position dimensions table shown below.

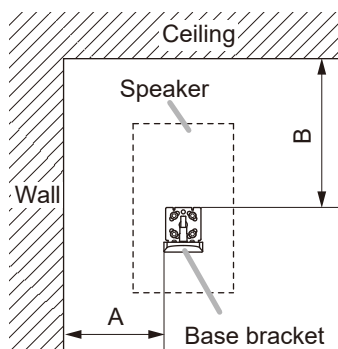
Shown below are the minimum distances from the wall or ceiling to the base bracket, taking into consideration the speaker installation angle.

For the speaker installation angle, see "Range of Speaker Installation Angle" on p. 10.

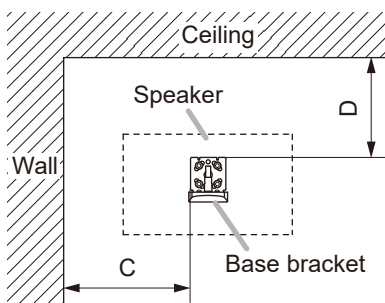
[When installing to a wall]

- The figures are front views.
- The base bracket in the diagrams is that of the F-05BT or F-05WT.

(Vertical installation)



(Horizontal installation)



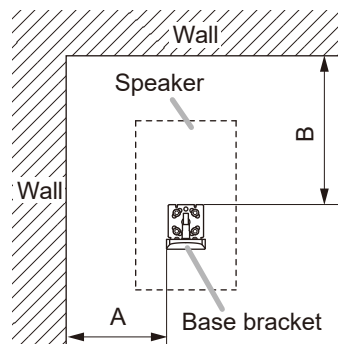
Unit: mm

	A	B	C	D
F-03BT F-03WT	170 (6.69")	250 (9.84")	220 (8.66")	250 (9.84")
F-05BT F-05WT	200 (7.87")	300 (11.81")	250 (9.84")	200 (7.87")
F-08BT F-08WT	300 (11.81")	450 (17.72")	350 (13.78")	300 (11.81")

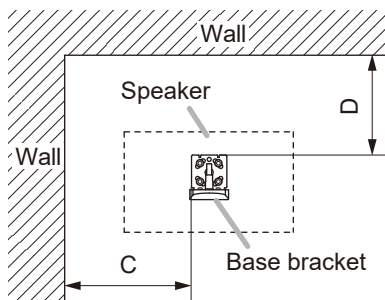
[When installing to a ceiling]

- The figures are bottom view.
- The base bracket in the diagram is that of the F-05BT or F-05WT.

(Vertical installation)



(Horizontal installation)



Unit: mm

	A	B	C	D
F-03BT F-03WT	150 (5.91")	250 (9.84")	150 (5.91")	250 (9.84")
F-05BT F-05WT	150 (5.91")	250 (9.84")	200 (7.87")	250 (9.84")
F-08BT F-08WT	200 (7.87")	300 (11.81")	250 (9.84")	250 (9.84")

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

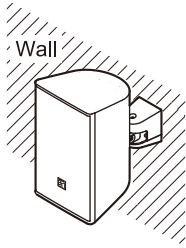
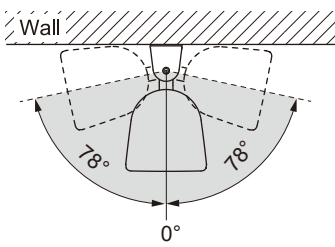
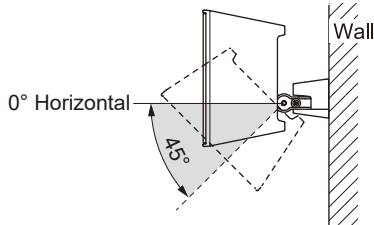
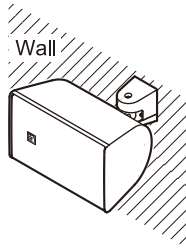
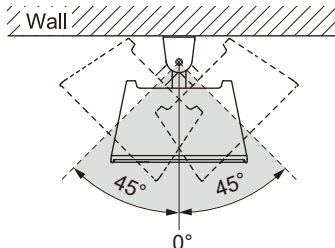
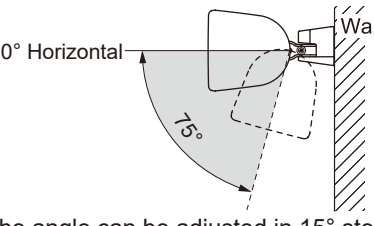
Model	When installing to a wall	When installing to a ceiling
F-03BT F-03WT	<p>[3-point installation]</p> <p>Mounting hole $\phi 6.5$ (0.26")</p> <p>12.3 (0.48")</p> <p>26.3 (1.04")</p> <p>24.6 (0.97")</p> <p>$\phi 32$ (1.26")</p> <p>M6 bolt</p> <p>Mounting hole</p>	<p>[2-point installation]</p> <p>M6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

7.2. Range of Speaker Installation Angle

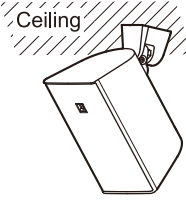
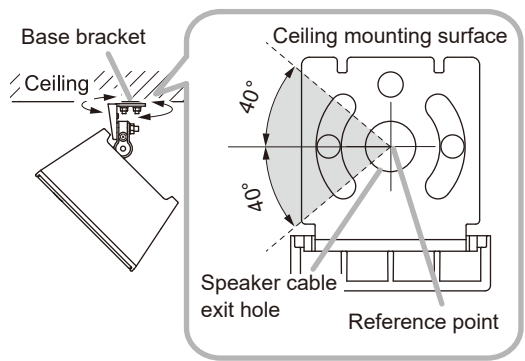
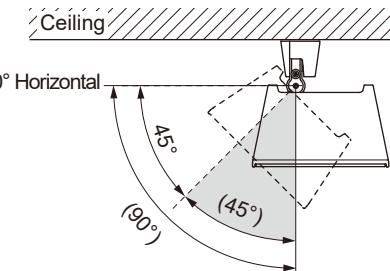
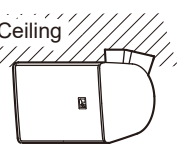
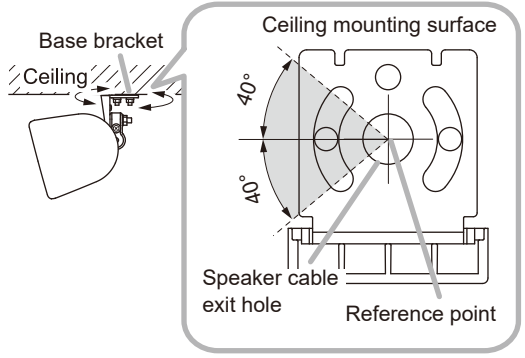
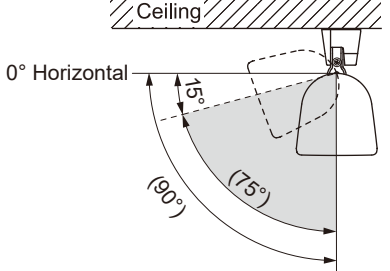
Install the speakers within the shaded  range shown in the table below.

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.

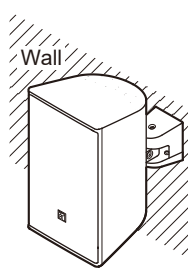
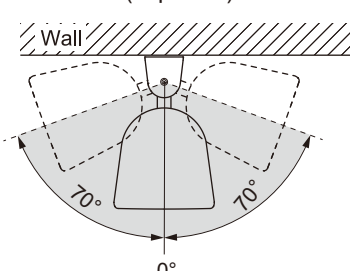
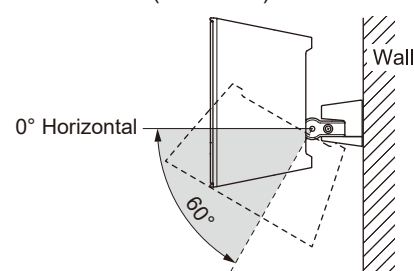
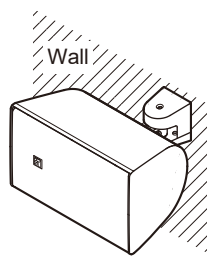
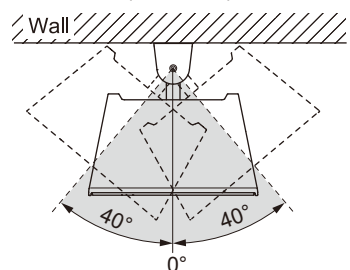
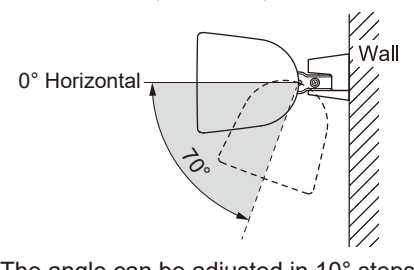
[When installing to a ceiling]

	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.

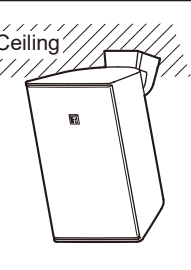
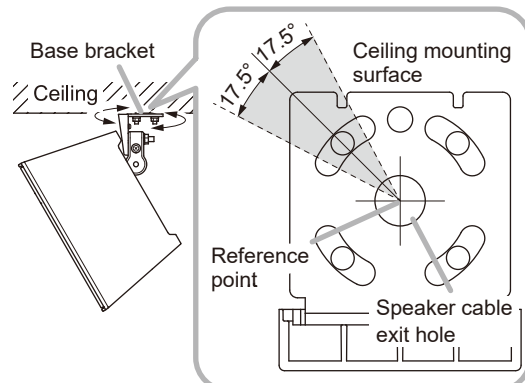
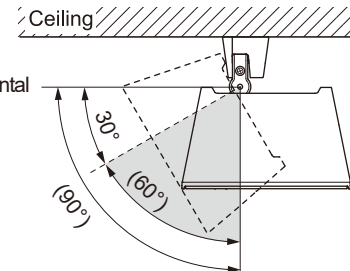
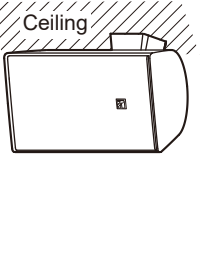
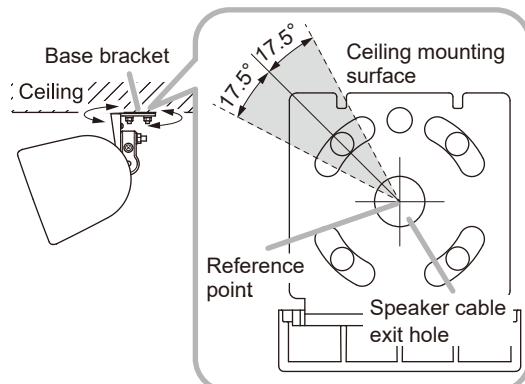
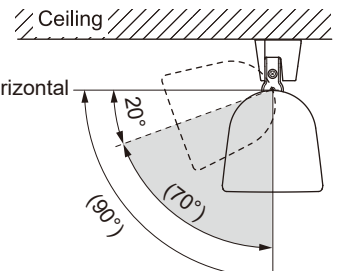
* In the case of the ceiling installation, adjust the horizontal angle by positioning the base bracket.

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.

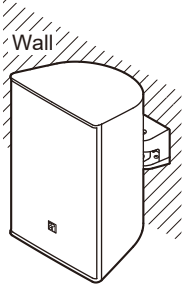
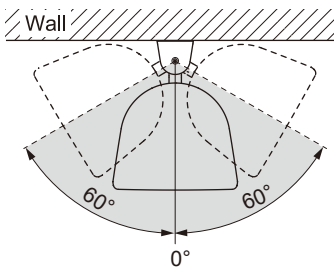
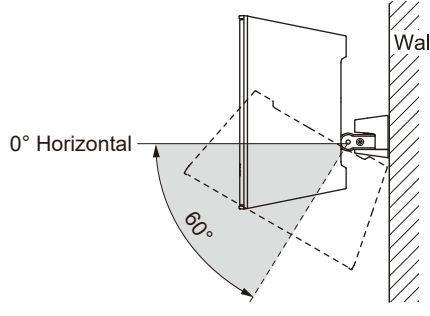
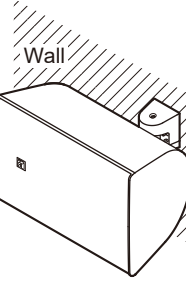
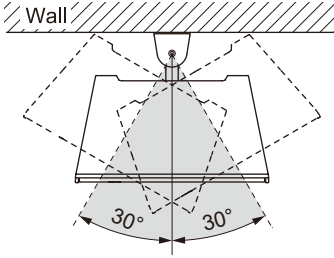
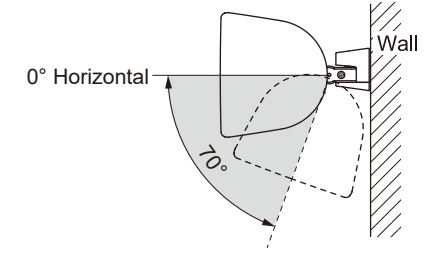
[When installing to a ceiling]

	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.


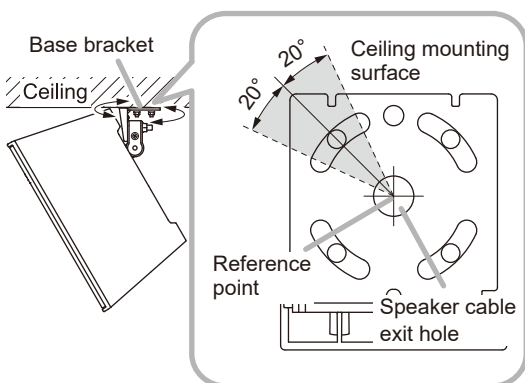
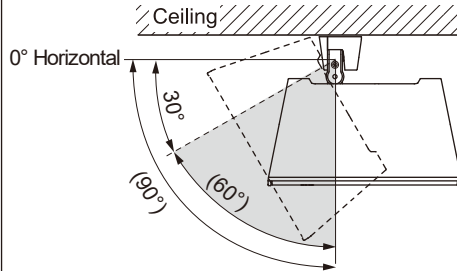
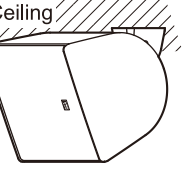
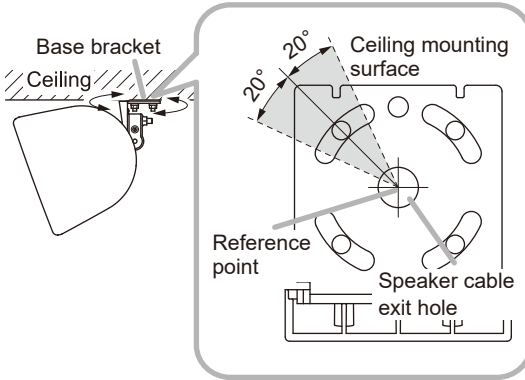
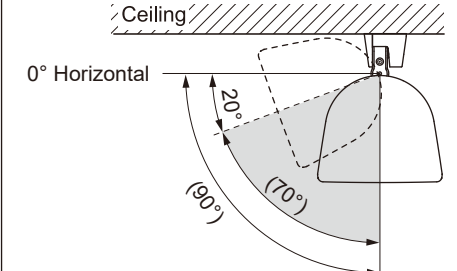
* In the case of the ceiling installation, adjust the horizontal angle by positioning the base bracket.

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

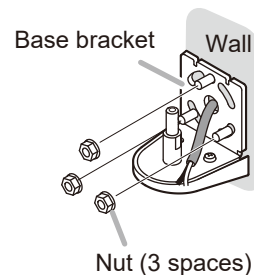
Note

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.

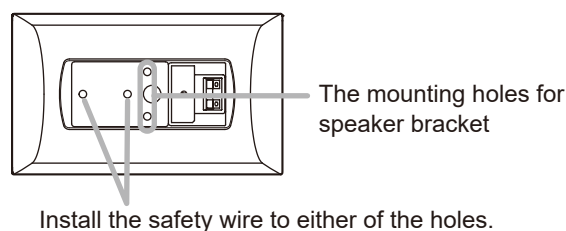
WARNING

- 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.

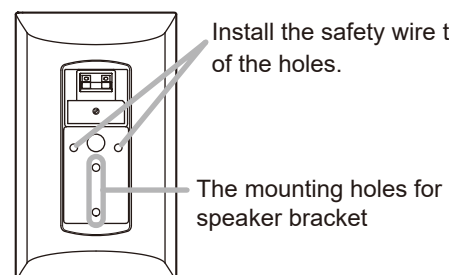
Note

The safety wire is not supplied. Prepare it separately.

[Horizontal installation]



[Vertical installation]



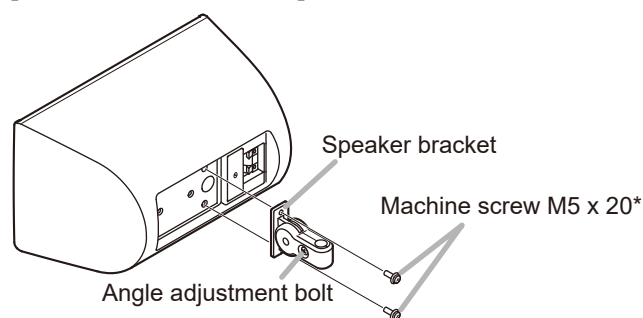
Step 3. Secure the speaker bracket to the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 2 N·m

Note

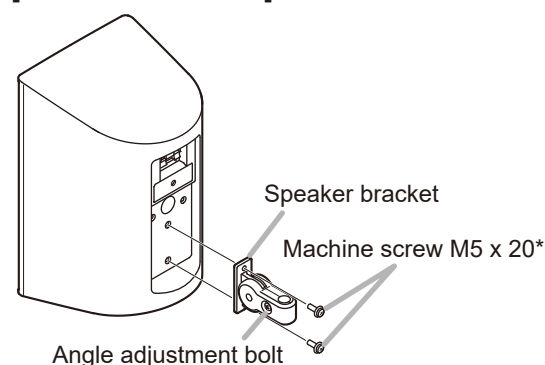
The speaker bracket can also be mounted upside down.

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**.

[Horizontal installation]



[Vertical installation]



* with plain washer and spring washer, accessory

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

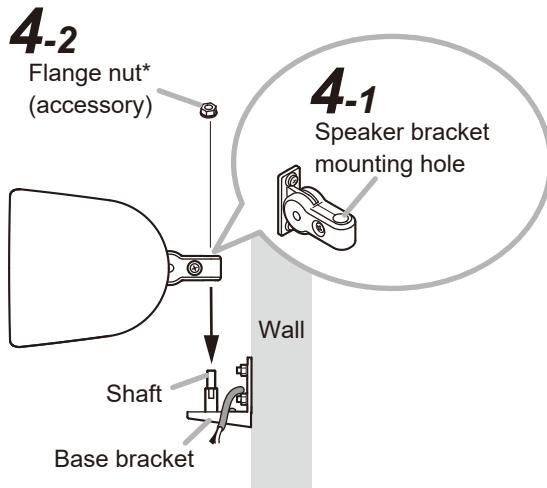
4-1. Insert the mounting hole in the speaker bracket onto the shaft of the base bracket fixed in **Step 1**.

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

Note

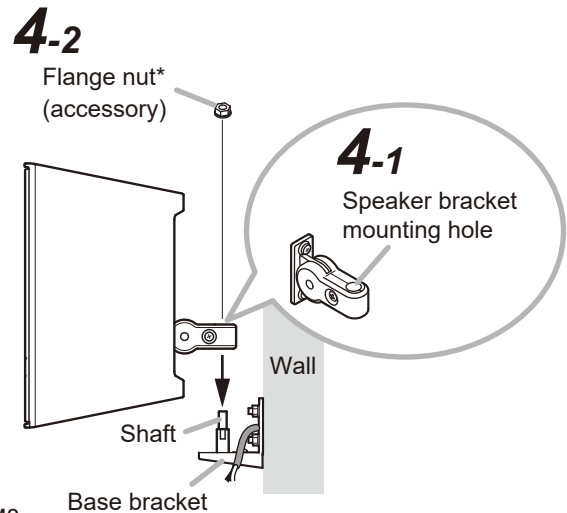
Be sure to use the supplied flange nut.

[Horizontal installation]



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

[Vertical installation]



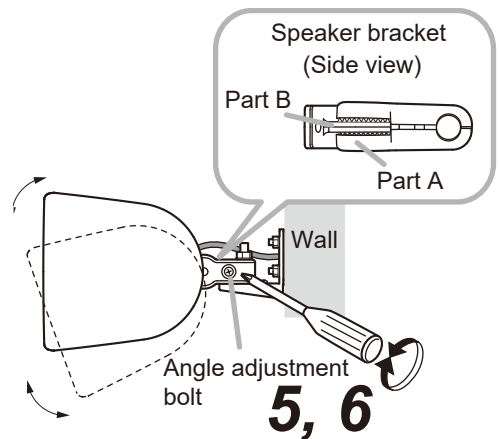
Step 5. Adjust the vertical angle by gradually loosening the angle adjustment bolt of the speaker bracket.

- 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 horizontal 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.)

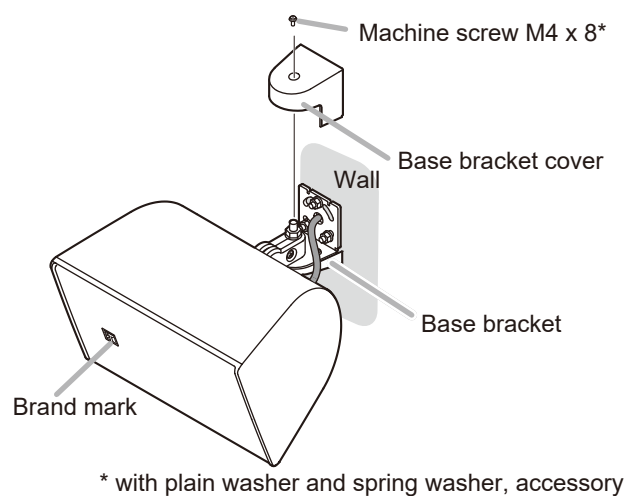
Step 8. Adjust the horizontal angle of the speaker around the shaft of the base bracket as the axis, then firmly tighten the flange nut temporarily tightened in **Step 4-2**.

[Recommended tightening torque]

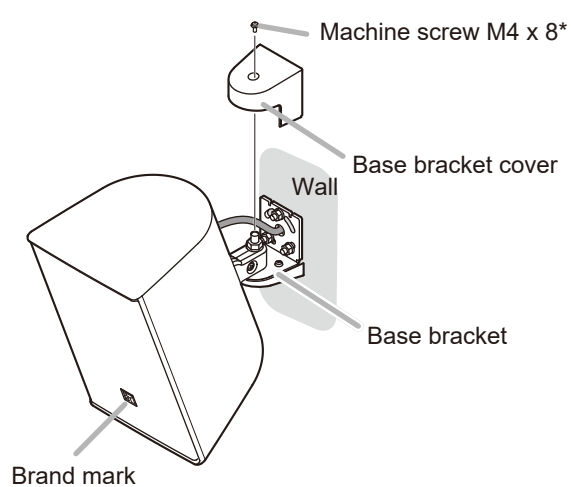
F-03BT, F-03WT, F-05BT, F-05WT: 10 N·m
F-08BT, F-08WT: 20 N·m

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.

[Horizontal installation]



[Vertical installation]



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

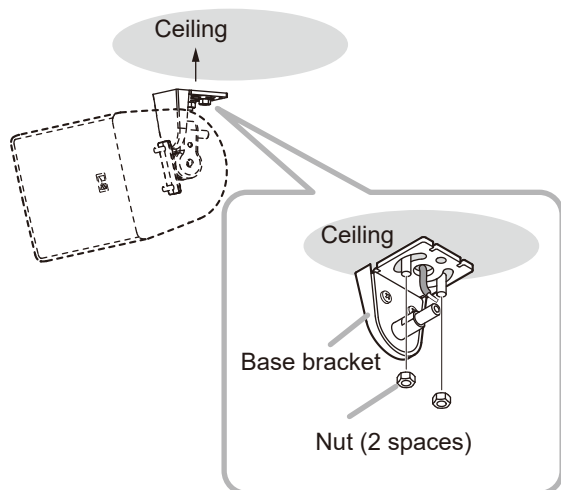
The figures from Step 2 onward are examples of the F-05BT or F-05WT.

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

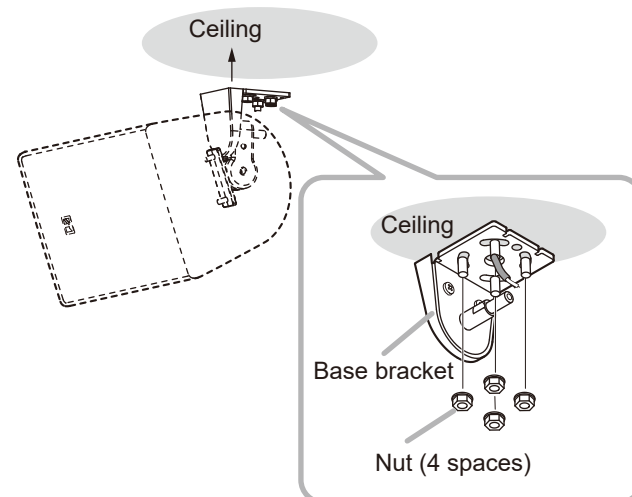
Notes

- 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.

[F-03BT or F-03WT]



[F-05BT, F-05WT, F-08BT, or F-08WT]



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.



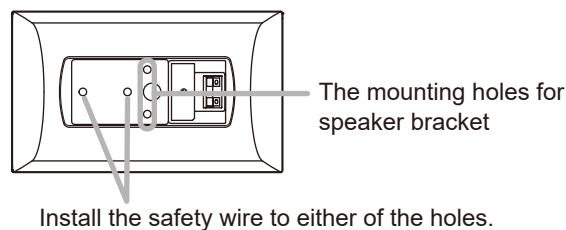
WARNING

- 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.

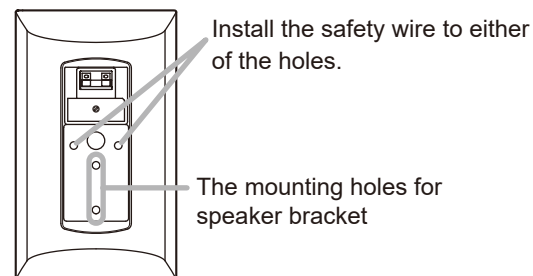
Note

The safety wire is not supplied. Prepare it separately.

[Horizontal installation]



[Vertical installation]



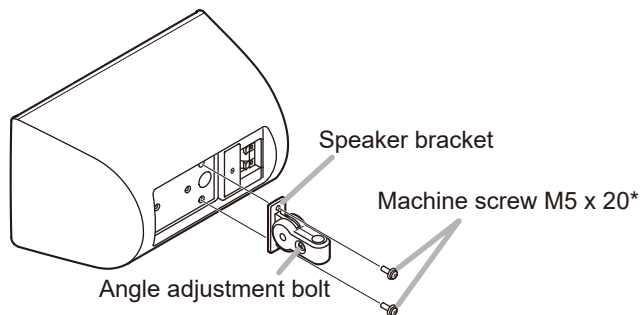
Step 3. Secure the speaker bracket to the rear surface of the speaker using the supplied screws.
Recommended tightening torque: 2 N·m

Note

The speaker bracket can also be mounted upside down.

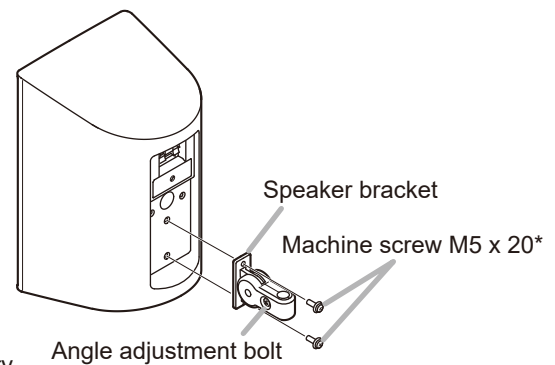
As the angle adjustment bolt is only provided on one side of the speaker bracket, install the bracket in the direction so that you can easily access the bolt for adjusting the speaker angle in **Steps 5** and **6** after installing the speaker bracket to the base bracket in **Step 4**.

[Horizontal installation]



* with plain washer and spring washer, accessory

[Vertical installation]

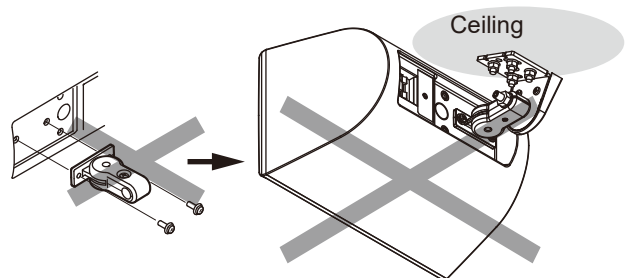


⚠ WARNING

Secure the speaker bracket in the position shown in the figures above.

For horizontal installation, if it is installed in the holes for attaching the safety wire (p. 16), excessive force is applied to the speaker, possibly causing it to fall and result in injury.

[Example of incorrect installation]



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

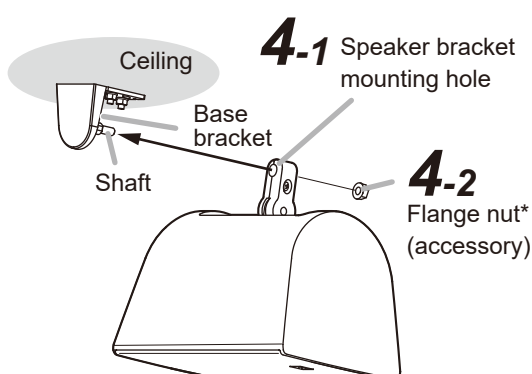
4-1. Insert the mounting hole in the speaker bracket onto the shaft of the base bracket fixed in **Step 1**.

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

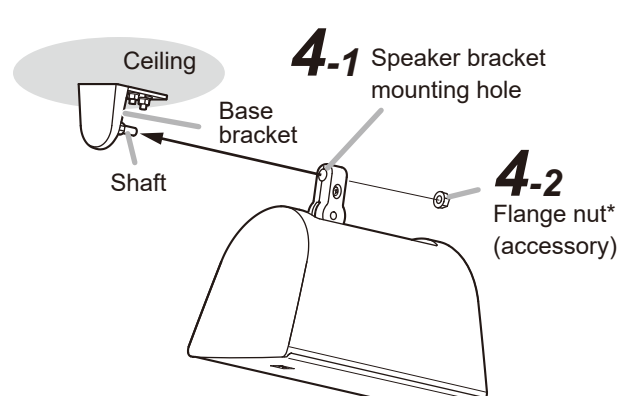
Note

Be sure to use the supplied flange nut.

[Horizontal installation]



[Vertical installation]



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

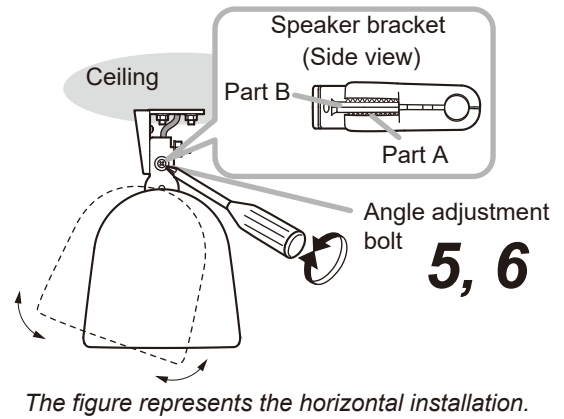
Step 5. Adjust the vertical angle by gradually loosening the angle adjustment bolt of the speaker bracket.

- 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.)

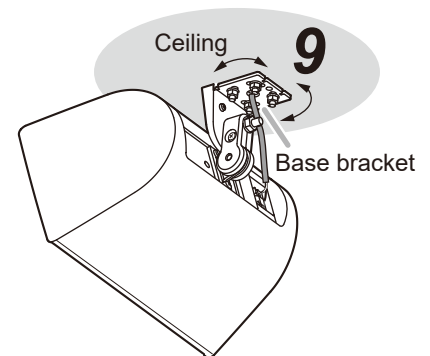
Step 8. Secure the speaker bracket to the base bracket by firmly tightening the flange nut temporarily tightened in **Step 4-2**.

[Recommended tightening torque]

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

F-08BT, F-08WT: 20 N·m

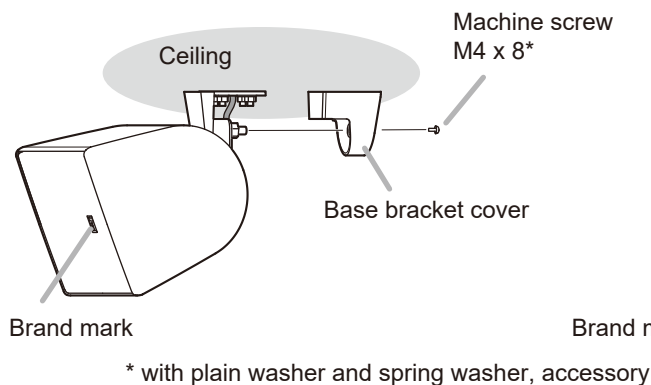
Step 9. Adjust the horizontal angle by moving the base bracket as shown in the figure at right.
For the angle adjustment range, see "Range of Speaker Installation Angle" on p. 10.



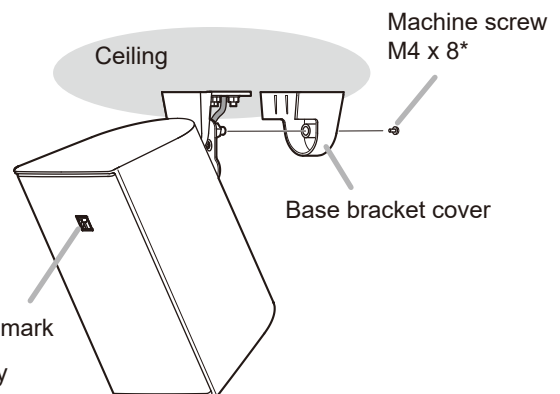
Step 10. Firmly tighten the nuts temporarily tightened in **Step 1** to secure the base bracket to the ceiling.
Recommended tightening torque: 10 N·m

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.

[Horizontal installation]



[Vertical installation]



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.

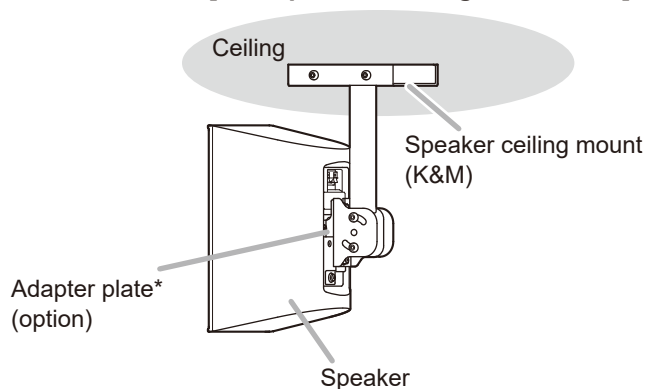
8. INSTALLATION EXAMPLES USING THE OPTIONAL ADAPTER PLATES

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.

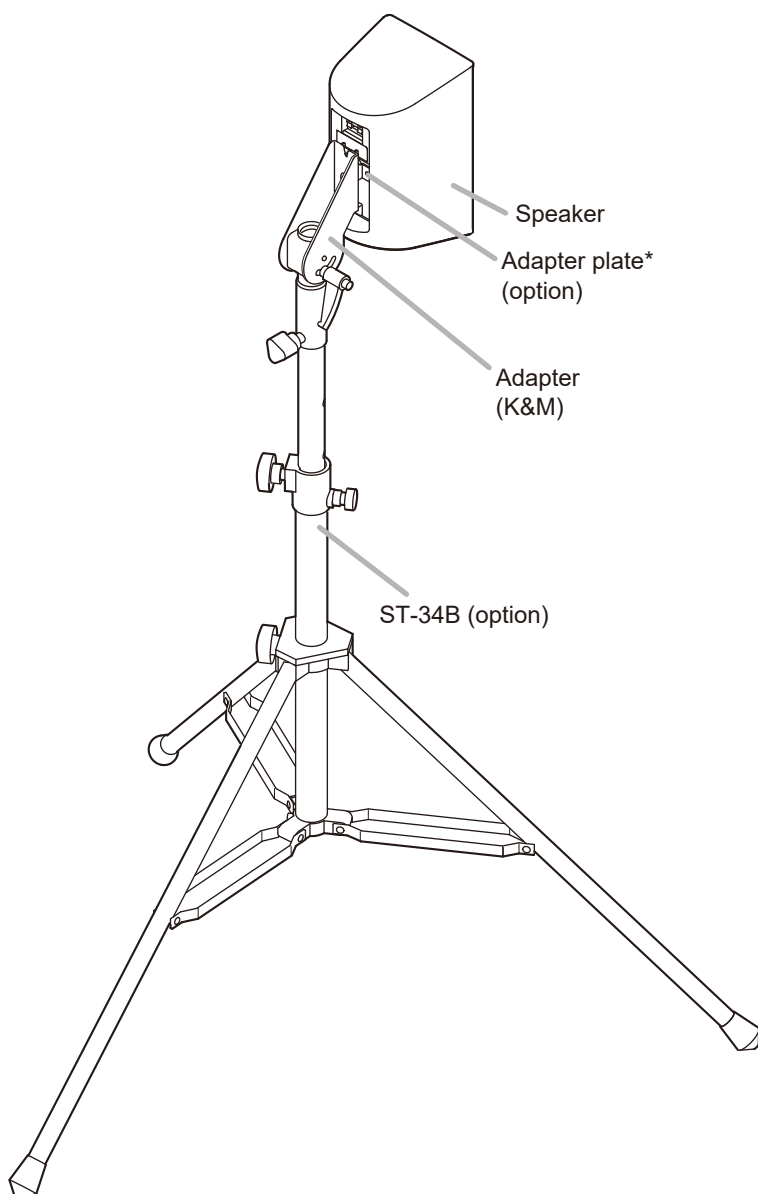
* The applicable adapter plate varies depending on the speaker system.

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

