

WIDE-DISPERSION SPEAKER SYSTEM

F-1000/F-2000 SERIES



DESCRIPTION

The TOA F-1000 and F-2000 Series comprise a two-way speaker line of compact units offering wide frequency response and higher, more powerful performance. These highly adaptable speaker systems are intended to meet the requirements of a wide range of venues and applications, both indoors and outdoors.

For clear, wide-area sound coverage, the Series include Octagon Horn wide dispersion-angle (110° x 100° on the F-2000 and 90° x 90° on the F-1000) high-frequency horns, plus an easily-added 80° x 80° dispersion angle horn adapter on the F-2000 for tighter dispersion control. Both high-impedance and low-impedance models are available. Low impedance models come with separate HF and LF protection circuitry. High impedance models have a rear-panel rotary control for making impedance settings that optimally match amplifier and speaker performance.

The speaker units have a design that combines stylishness and a high degree of performance-enhancing rigidity. Even the decor-enhancing convex bulge on the side of the casing serves to improve rigidity. Brackets for easy speaker-stand, wall and ceiling installation are included, and there are also optionally available brackets for more challenging installation venues and sound reinforcement applications. Push-in terminals make connections quick and easy, and there are models for outdoor use that meet IP-X4 splash-proof standards.

FEATURES

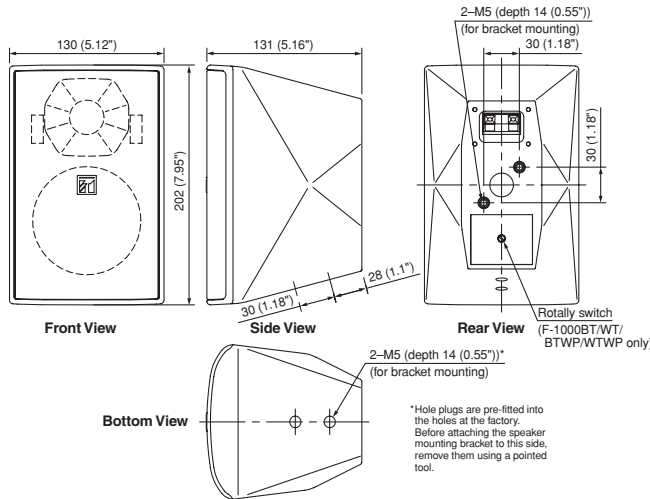
- 110° x 100° (F-2000) and 90° x 90° (F-1000) dispersion angle high-frequency horns (Octagon Horn) ensure an enhanced sound coverage area and a more even balanced tone.
- Easily-mountable 80° x 80° dispersion angle horn adapter included on the F-2000 for increased dispersion control.
- Waterproof design with anticorrosive punching net and terminal cover, meeting IP-X4 splash-proof ratings, available on models F-1000BTWP/WTWP and F-2000BTWP/WTWP.
- All speaker models are repaintable.
- Low impedance models have high and low frequency filter and protection circuitry.
- Included accessory brackets allow a wide choice of installations on walls and ceilings.
- Optionally available brackets meet an even wider variety of installation demands.
- Stylish and highly rigid casing design for attractive installation with clearer sound reproduction.
- Sensitivity: 87dB, 1W, 1m (F-1000)
92dB, 1W, 1m (F-2000 without horn adapter)
93dB, 1W, 1m (F-2000 with horn adapter)



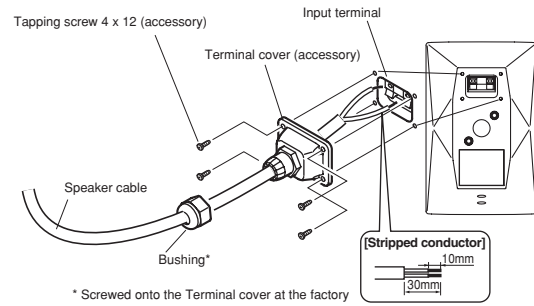
F-1000 SERIES

F-1000B/W/BT/WT/BTWP/WTWP

APPEARANCE AND DIMENSIONAL DIAGRAM



TERMINAL COVER USE (F-1000BTWP/WTWP only)

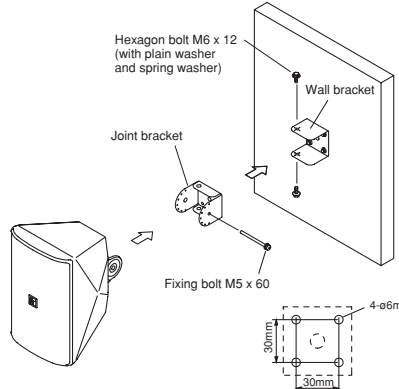


- Notes**
- For the speaker cable, use a cable with a diameter of 6 – 10 mm, which will fit the cable bushing.
 - To ensure waterproof capabilities, firmly mount the terminal cover to the speaker and tighten the bushing on the cover.

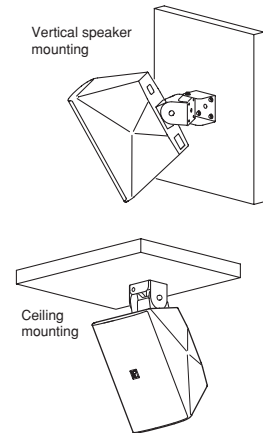
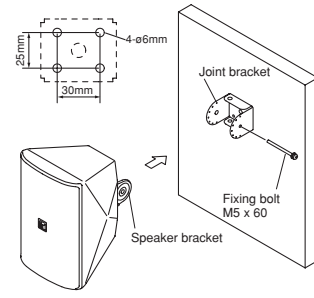
WALL BRACKET AND JOINT BRACKET MOUNTING

Wall bracket mounting

- Vertical installation
Horizontal: Max. 82°,
Vertical: Max. 45° downward
- Horizontal installation
Horizontal: Max. 60°,
Vertical: Max. 45° downward



Joint bracket mounting



SPECIFICATIONS

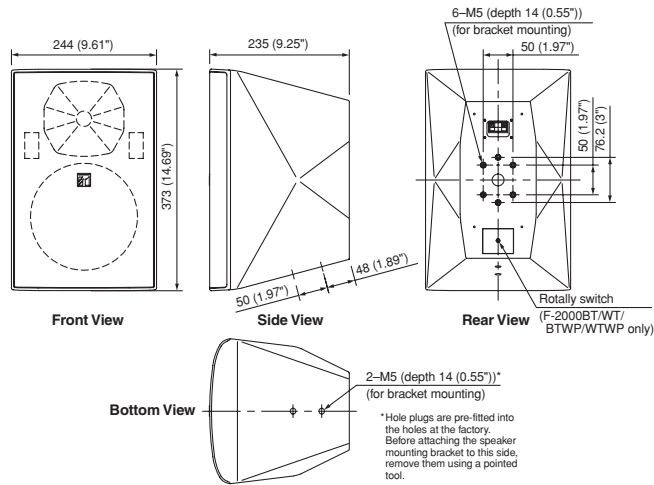
Model No.	F-1000B	F-1000W	F-1000BT	F-1000WT	F-1000BTWP*	F-1000WTWP*
Enclosure Type	Bass-reflex type					
Power Handling Capacity	30 W (continuous pink noise) 90 W (continuous program)			—		
Rated Input	—			15 W		
Rated Impedance	8 Ω			100V line: 670Ω (15W), 2 kΩ (5W), 3.3 kΩ (3W), 10 kΩ (1W) 70V line: 330Ω (15W), 670Ω (7.5W), 2 kΩ (2.5W), 3.3 kΩ (1.5W), 10 kΩ (0.5W)		
Sensitivity	87 dB (1W, 1m) at installation in 1/2 free sound field					
Frequency Response	85 – 20,000 Hz, -10 dB at installation in 1/2 free sound field					
Crossover Frequency	5 kHz					
Directivity Angle	Horizontal: 90°, Vertical: 90°					
Speaker Component	Low frequency: 10 cm (4") cone-type High frequency: Balanced dome tweeter					
Input Terminal	Push-in terminal					
Water Protection	—				IPX4	
Operating Temperature	-10°C to +50°C (14°F to 122°F)					
Finish	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white paint Speaker bracket: Die-cast aluminum, white, paint	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white, paint Speaker bracket: Die-cast aluminum, white, paint	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white, paint Speaker bracket: Die-cast aluminum, white, paint
Dimensions	130 (W) × 202 (H) × 131 (D) mm (5.12" × 7.95" × 5.16")					
Weight	1.8 kg (3.97 lb) (including the supplied brackets)				2 kg (4.41 lb) (including the supplied brackets)	
Accessories	Speaker bracket × 1, Joint bracket × 1, Wall bracket × 1, Bracket fixing screw × 1 set				Speaker bracket × 1, Joint bracket × 1, Wall bracket × 1, Bracket fixing screw × 1 set, Terminal cover × 1, Terminal cover mounting screw × 4	
Option	Board hanger bracket: HY-BH10B Ceiling mount bracket: HY-CM10B Cluster bracket: HY-CL10B	Board hanger bracket: HY-BH10B Ceiling mount bracket: HY-CM10W Cluster bracket: HY-CL10B	Board hanger bracket: HY-BH10B Ceiling mount bracket: HY-CM10B Cluster bracket: HY-CL10B	Board hanger bracket: HY-BH10B Ceiling mount bracket: HY-CM10W Cluster bracket: HY-CL10B	Speaker mount bracket: YS-60B	
Recommended Subwoofer	HB-1, FB-10, FB-100					

* Note: Avoid installing the speaker in locations close to the seashore or in indoor swimming facilities.

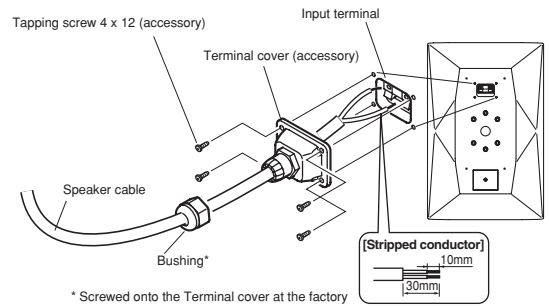
F-2000 SERIES

F-2000B/W/BT/WT/BTWP/WTWP

APPEARANCE AND DIMENSIONAL DIAGRAM



TERMINAL COVER USE (F-2000BTWP/WTWP only)



Notes

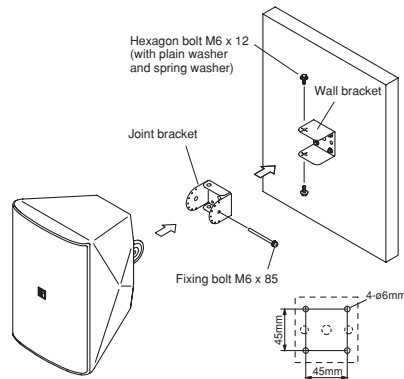
- For the speaker cable, use a cable with a diameter of 6 – 10 mm, which will fit the cable bushing.
- To ensure waterproof capabilities, firmly mount the terminal cover to the speaker and tighten the bushing on the cover.

WALL BRACKET AND JOINT BRACKET MOUNTING

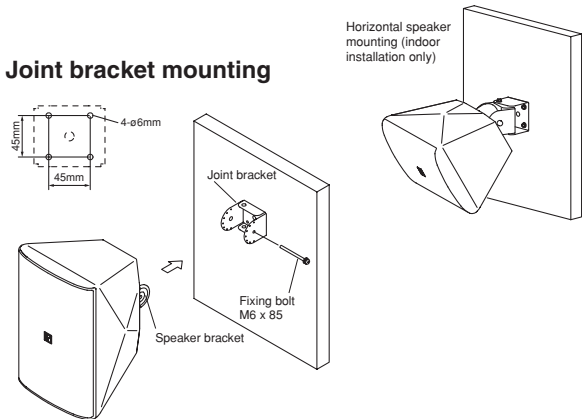
Wall bracket mounting

Vertical installation
Horizontal: Max. 70°
Vertical: Max. 45° downward

Horizontal installation
Horizontal: Max. 45°
Vertical: Max. 45° downward



Joint bracket mounting



SPECIFICATIONS

Model No.	F-2000B	F-2000W	F-2000BT	F-2000WT	F-2000BTWP*	F-2000WTWP*
Enclosure Type	Bass-reflex type					
Power Handling Capacity	60 W (continuous pink noise) 180 W (continuous program)			—		
Rated Input	—			60 W		
Rated Impedance	8 Ω			100V line: 170Ω (60W), 330 Ω (30W), 670 Ω (15W), 3.3 kΩ (3W) 70V line: 83Ω (60W), 170Ω (30W), 330 Ω (15W), 670 Ω (7.5W), 3.3 kΩ (1.5W)		
Sensitivity	92 dB (1W, 1m) at installation in 1/2 free sound field 93 dB (1W, 1m) at installation in 1/2 free sound field (with horn adapter)					
Frequency Response	65 - 20,000 Hz, -10 dB at installation in 1/2 free sound field					
Crossover Frequency	2.5 kHz					
Directivity Angle	Horizontal: 110°, Vertical: 100° Horizontal: 80°, Vertical: 80° (with horn adapter)					
Speaker Component	Low frequency: 20 cm (8") cone-type High frequency: 25 mm (1") dome tweeter					
Input Terminal	Push-in terminal					
Water Protection	—				IPX4	
Operating Temperature	-10°C to +50°C (14°F to 122°F)					
Finish	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white, paint Speaker bracket: Die-cast aluminum, white, paint	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white, paint Speaker bracket: Die-cast aluminum, white, paint	Enclosure: HIPS resin, black Punched net: Surface-treated steel plate, black, paint Joint bracket, wall bracket: Steel plate, t1.6, black, paint Speaker bracket: Die-cast aluminum, black, paint	Enclosure: HIPS resin, white Punched net: Surface-treated steel plate, white, paint Joint bracket, wall bracket: Steel plate, t1.6, white, paint Speaker bracket: Die-cast aluminum, white, paint
Dimensions	244 (W) × 373 (H) × 235 (D) mm (9.61" × 14.69" × 9.25")					
Weight	6.5 kg (14.33 lb) (including the supplied brackets)			7.4 kg (16.31lb) (including the supplied brackets)		
Accessories	Speaker bracket × 1, Joint bracket × 1, Wall bracket × 1, Bracket fixing screw × 1 set, Horn adapter × 1, Horn adapter mounting screw × 4				Speaker bracket × 1, Joint bracket × 1, Wall bracket × 1, Bracket fixing screw × 1 set, Horn adapter × 1, Horn adapter mounting screw × 4, Terminal cover × 1, Terminal cover mounting screw × 4	
Option	Ceiling mount bracket: HY-CM20B Cluster bracket: HY-CL20B	Ceiling mount bracket: HY-CM20W Cluster bracket: HY-CL20B	Ceiling mount bracket: HY-CM20B Cluster bracket: HY-CL20B	Ceiling mount bracket: HY-CM20W Cluster bracket: HY-CL20B	Speaker mount bracket: SP-131, YS-60B	
Recommended Subwoofer	FB-100, FB-120B/W					

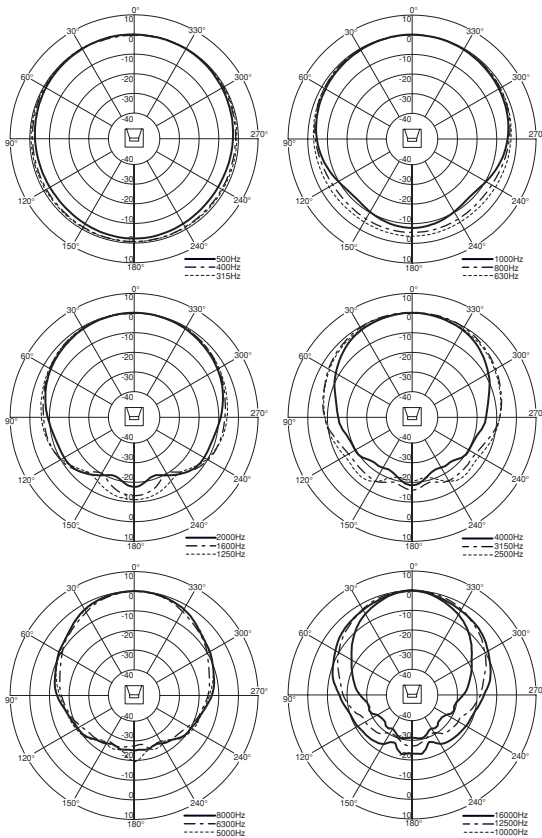
* Note: Avoid installing the speaker in locations close to the seashore or in indoor swimming facilities.

F-1000 SERIES

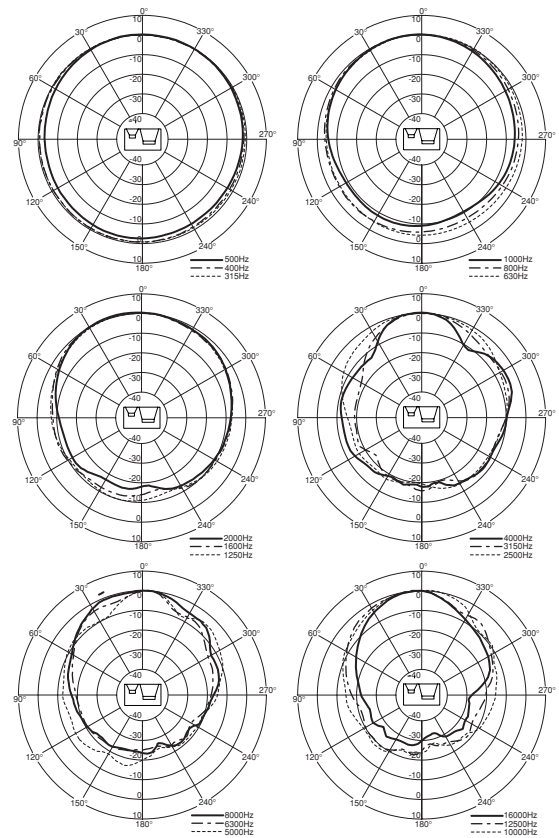
CHARACTERISTIC DIAGRAMS

Polar Response

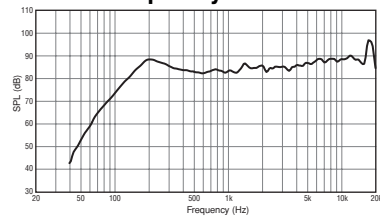
horizontal



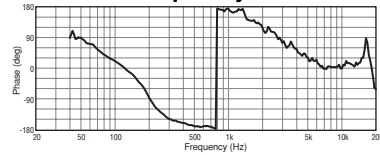
vertical



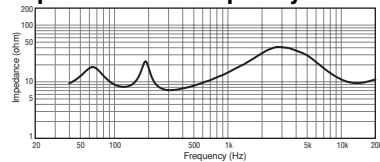
SPL vs. Frequency



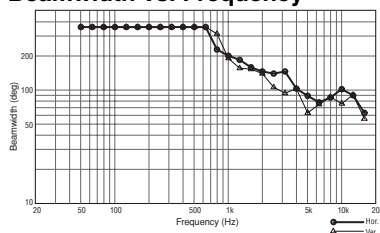
Phase vs. Frequency



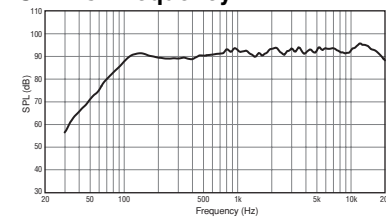
Impedance vs. Frequency



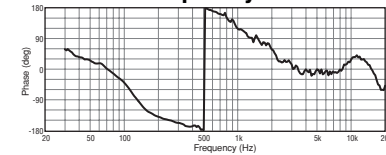
Beamwidth vs. Frequency



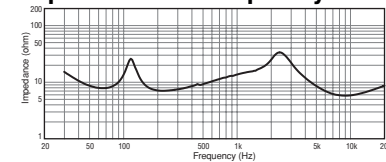
• without HF Horn Adapter SPL vs. Frequency



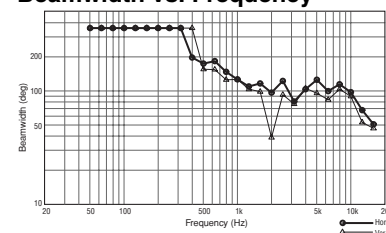
Phase vs. Frequency



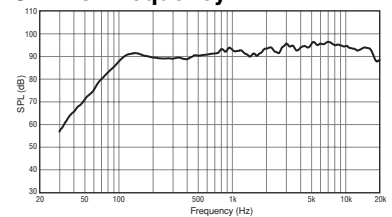
Impedance vs. Frequency



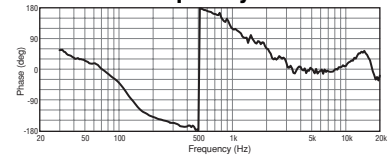
Beamwidth vs. Frequency



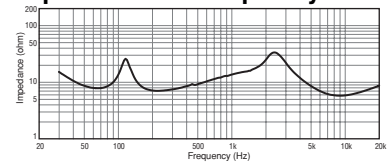
• with HF Horn Adapter SPL vs. Frequency



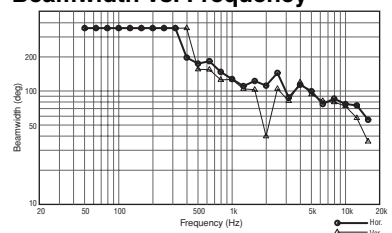
Phase vs. Frequency



Impedance vs. Frequency



Beamwidth vs. Frequency



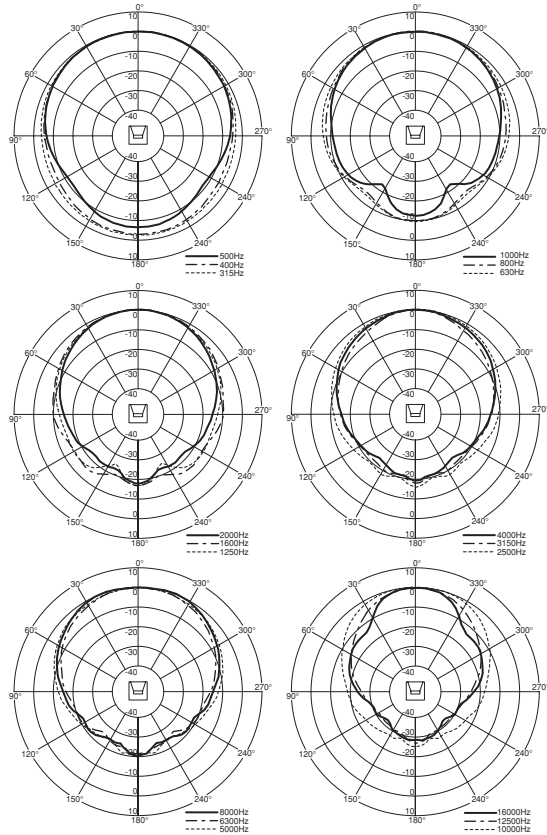
F-2000 SERIES

CHARACTERISTIC DIAGRAMS

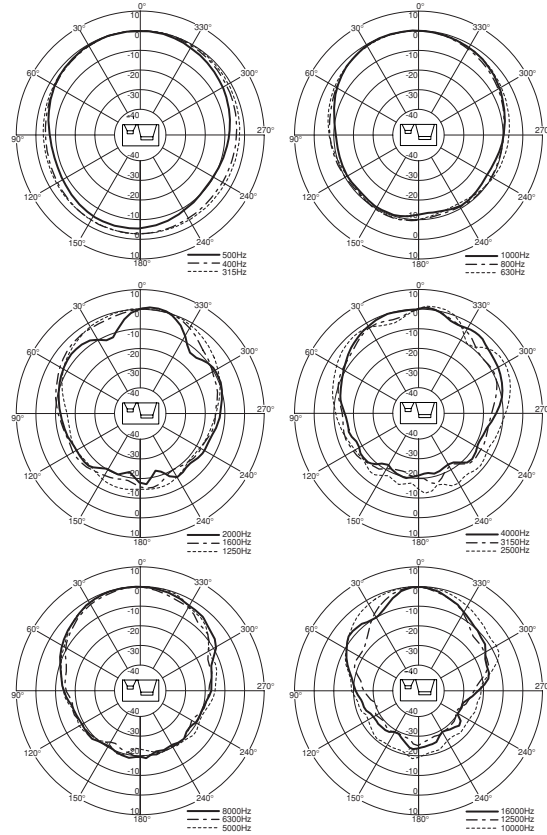
• without HF Horn Adapter

Polar Response

horizontal



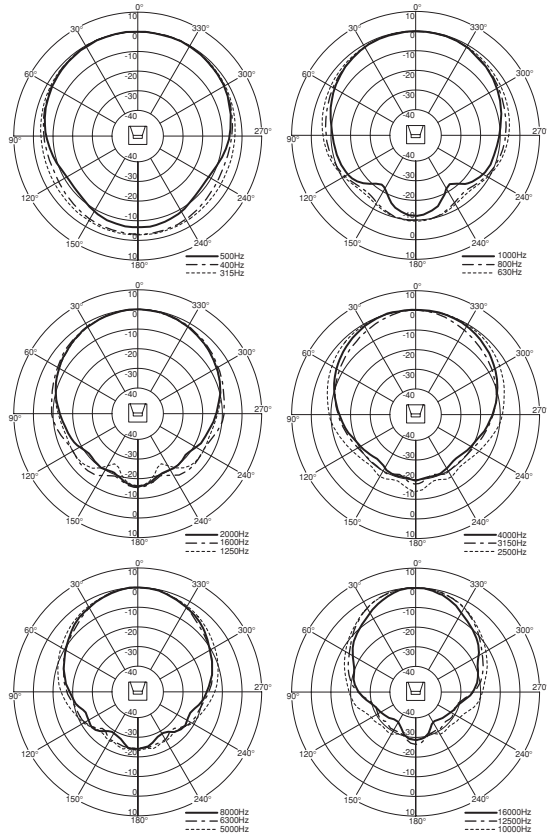
vertical



• with HF Horn Adapter

Polar Response

horizontal



vertical

