

# FGM SPEAKER SYSTEM



## DESCRIPTION

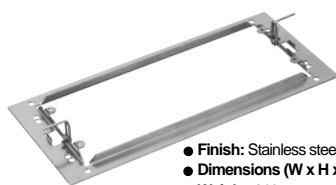
The H Series FGM Speakers are the latest example of TOA's modern, innovative approach to commercial speaker design. The unique, stylish appearance and superb sound quality of the three new models, the H-1, H-2 and H-2WP, provide a welcome alternative to conventional wall- and ceiling-mount speakers.

Applications include speaker systems for houses of worship, hotels, offices, museums, restaurants, retail stores, residential spaces and many others. The H-2WP is a weather-proof version of the H-2 for outdoor wall-mount applications such as terraces, gardens, patios and swimming pools.

The H series minimum reflection design significantly reduces sound wave reflections and the resulting sound coloration that occurs with conventional bracket-mounted "box" type speakers. Wall- or ceiling-mount installation is fast and easy using standard electrical gangboxes, and you can rotate and aim the loudspeaker components without altering the enclosure's external appearance.

Each H series speaker has a paintable grille and features a high quality Ferrofluidcooled dome tweeter, Neodymium woofer, 70.7/ 100 V matching transformer and removable terminal block.

### HY-H1 Optional Adapter Frame For H-1 Speaker.



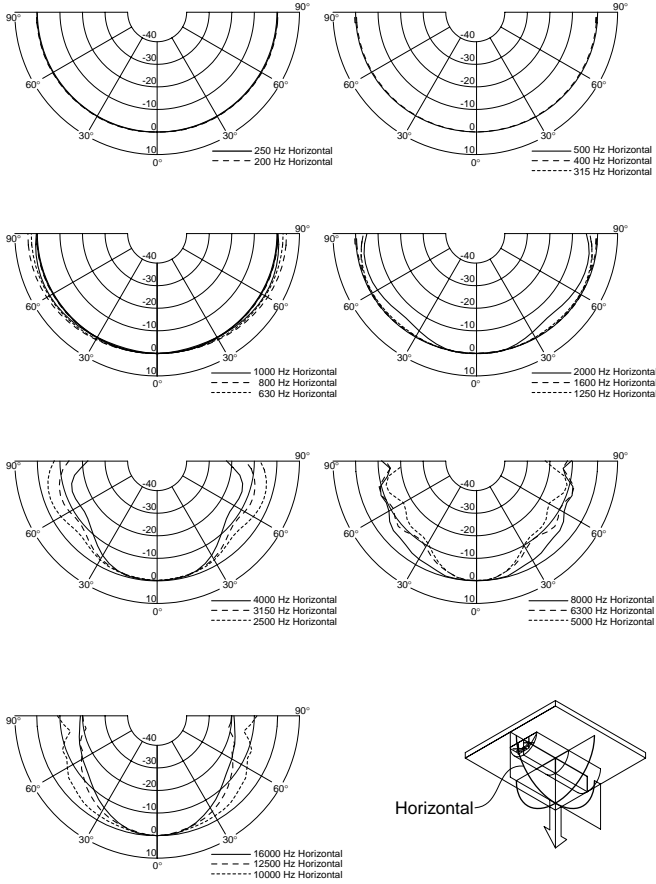
- **Finish:** Stainless steel
- **Dimensions (W x H x D):** 287.2 x 122 x 10 mm
- **Weight:** 210 g

## FEATURES

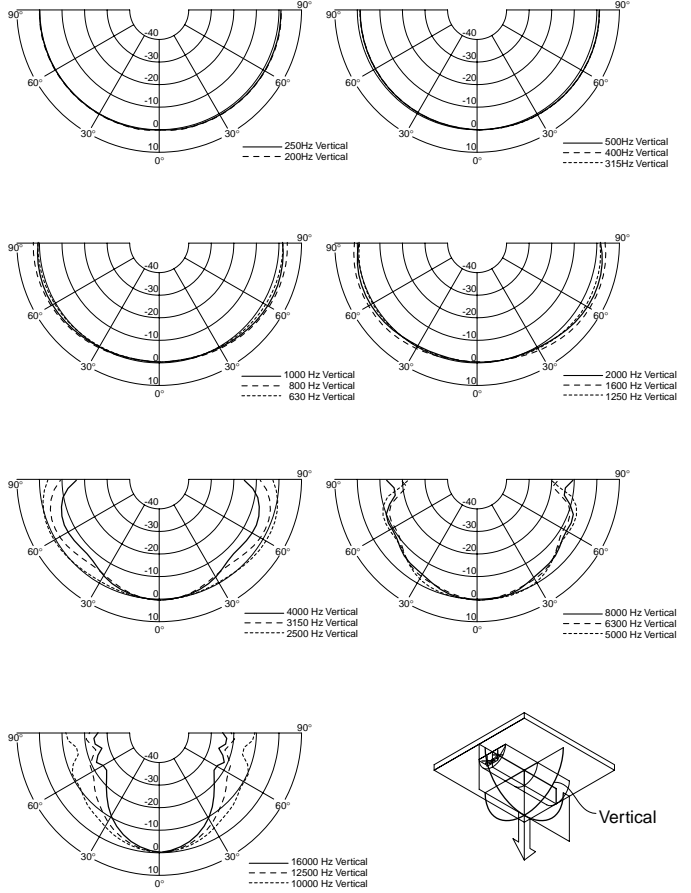
- Sleek, stylish appearance blends well with modern architecture for background/foreground music and paging systems.
- Wide variety of applications including wall- or ceiling-mount speaker systems for houses of worship, hotels, museums, offices, restaurants, retail stores and residential spaces.
- Weather-proof version available, model H-2WP, for outdoor applications such as terraces, gardens, patios and swimming pools.
- Minimum reflection design reduces sound wave reflections typical of conventional bracket-mounted "box" type speakers.
- Loudspeaker components rotate to allow flexible aiming without altering the enclosure's external appearance ( H-1:  $\pm 45^\circ$ , H-2 :  $360^\circ$ , H-2WP :  $360^\circ$  ).
- Two-way, sealed enclosure with high quality components:
  - 1" balanced-dome tweeter, Ferrofluidcooled.
  - 3" x 2" cone woofer (H-1) or 4" cone woofer (H-2/H-2WP) with Neodymium magnets for improved low frequency response.
- Built-in 70.7 V/ 100 V matching transformer (12 W max.) for distributed speaker systems.
- Protection circuit to prevent loudspeaker damage from excessive input.
- Built-in passive crossover with optimized filter slopes.
- High power handling : 90 W for the H-1 and 120 W for the H-2/ H-2WP (continuous program).
- Fast and easy installation :
  - Using standard electrical gang-boxes (H-1: 4 gang, H-2/H-2WP: 1 gang).
  - H-1 also mounts directly to drywall with supplied bracket ( also available separately, model HY-H1).
- Push-on grilles with paintable finish allow custom-matching to any environment.
- Removable terminal block accepts up to AWG #14 wire with loop-through terminations for distributed speaker systems.
- Fire-rated ABS enclosure (H-1/ H-2).

# Polar Response H-1

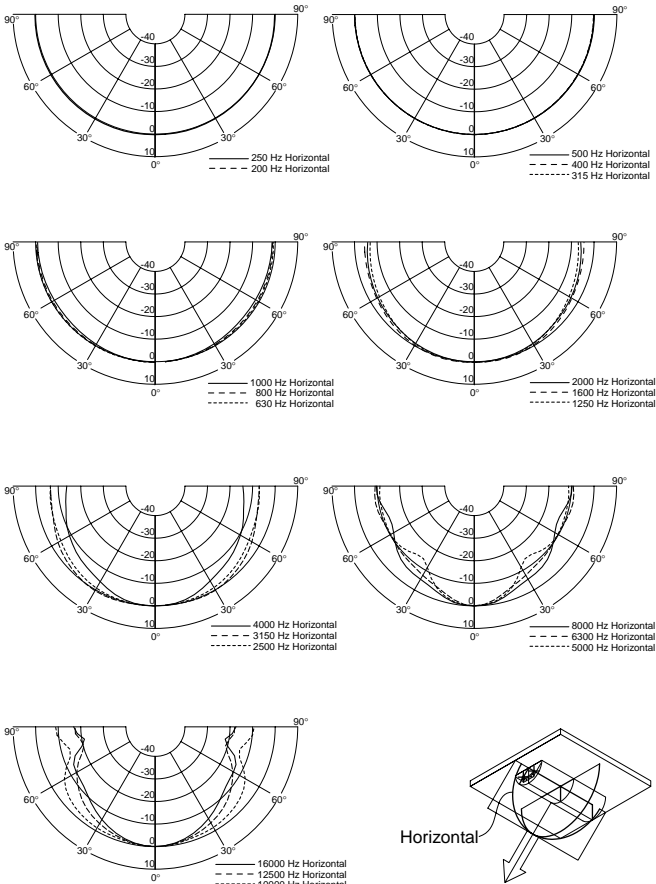
## Horizontal (0°)



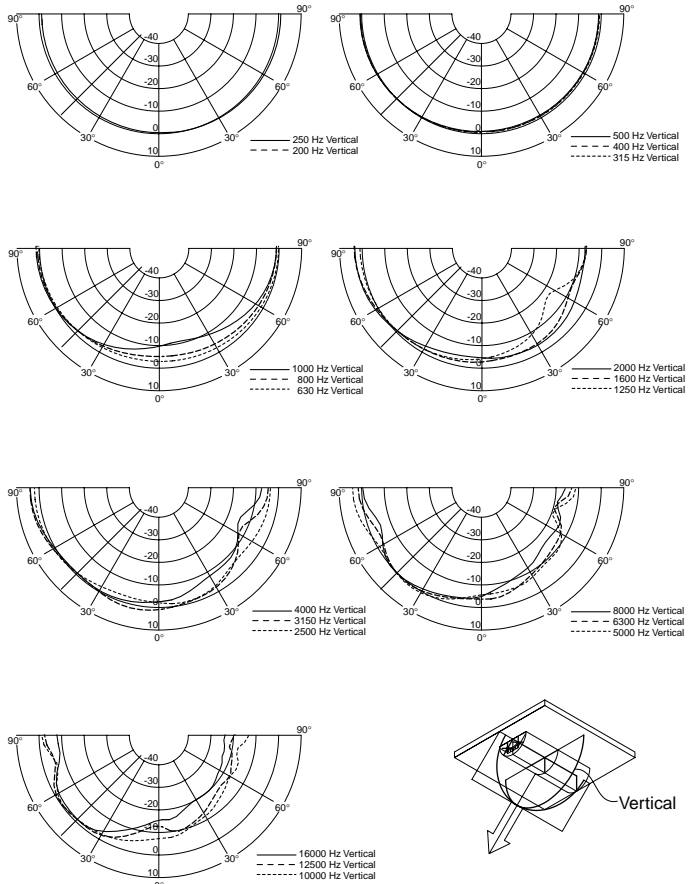
## Vertical (0°)



## Horizontal (-45°)

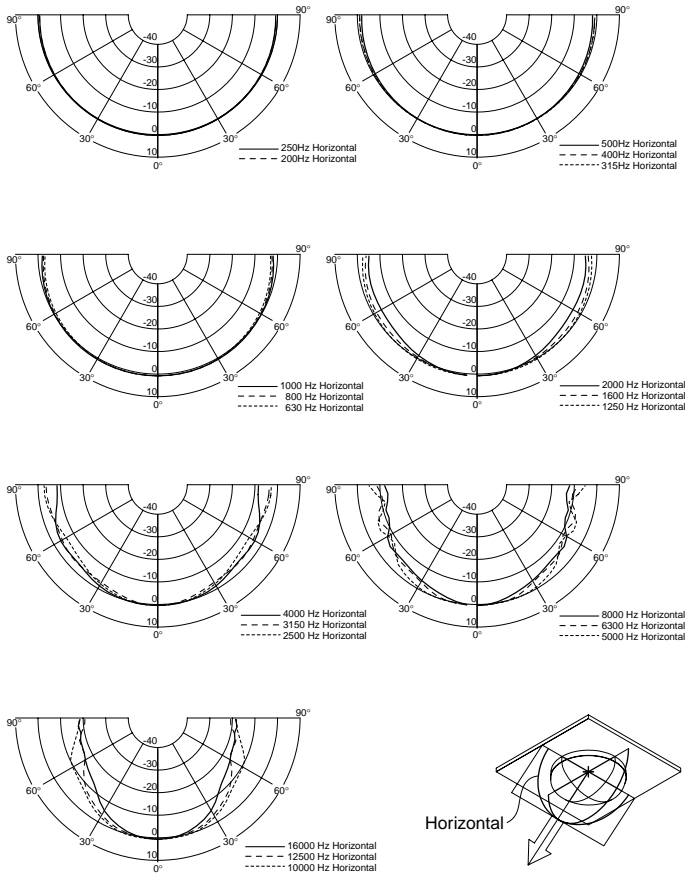


## Vertical (-45°)

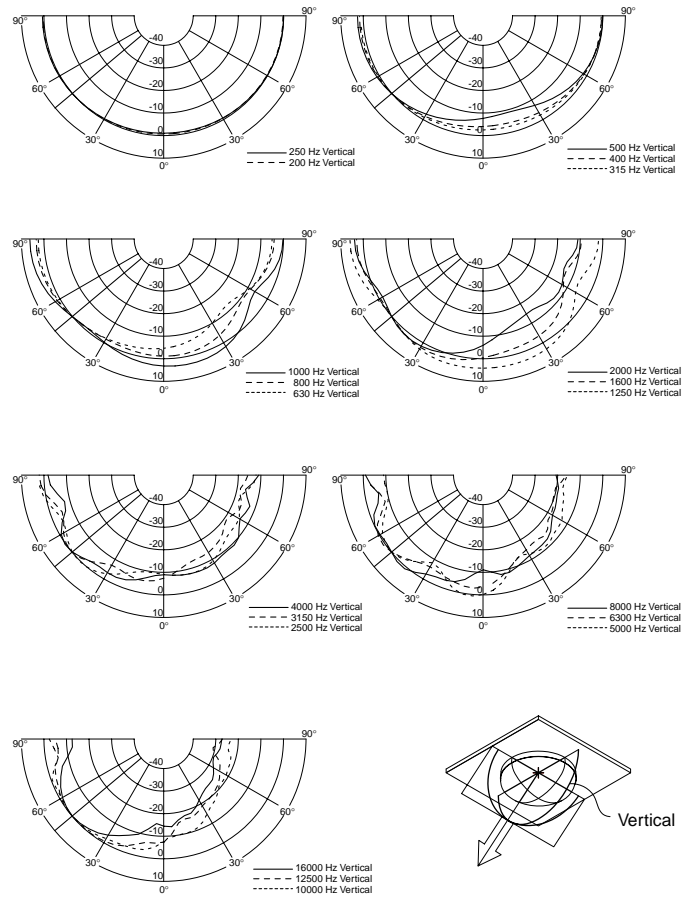


# Polar Response H-2/H-2WP

## Horizontal

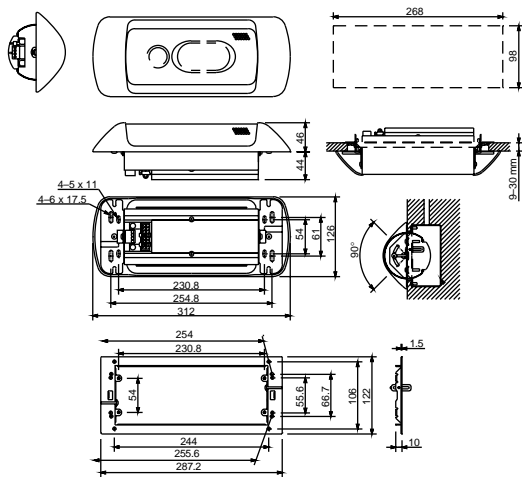


## Vertical

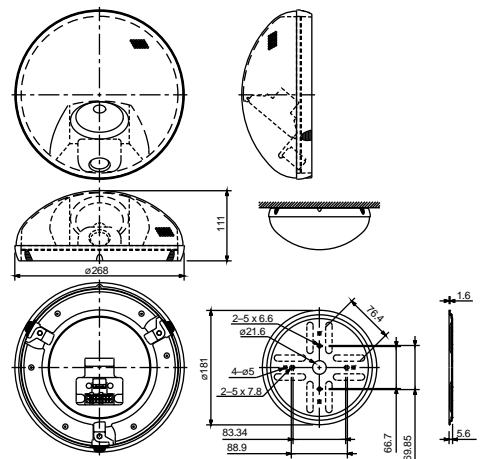


## APPEARANCE AND DIMENSIONAL DIAGRAMS

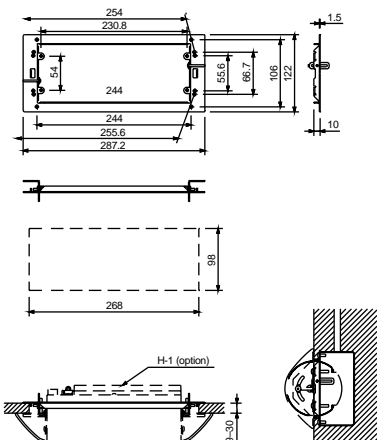
### H-1



### H-2/H-2WP



### HY-H1

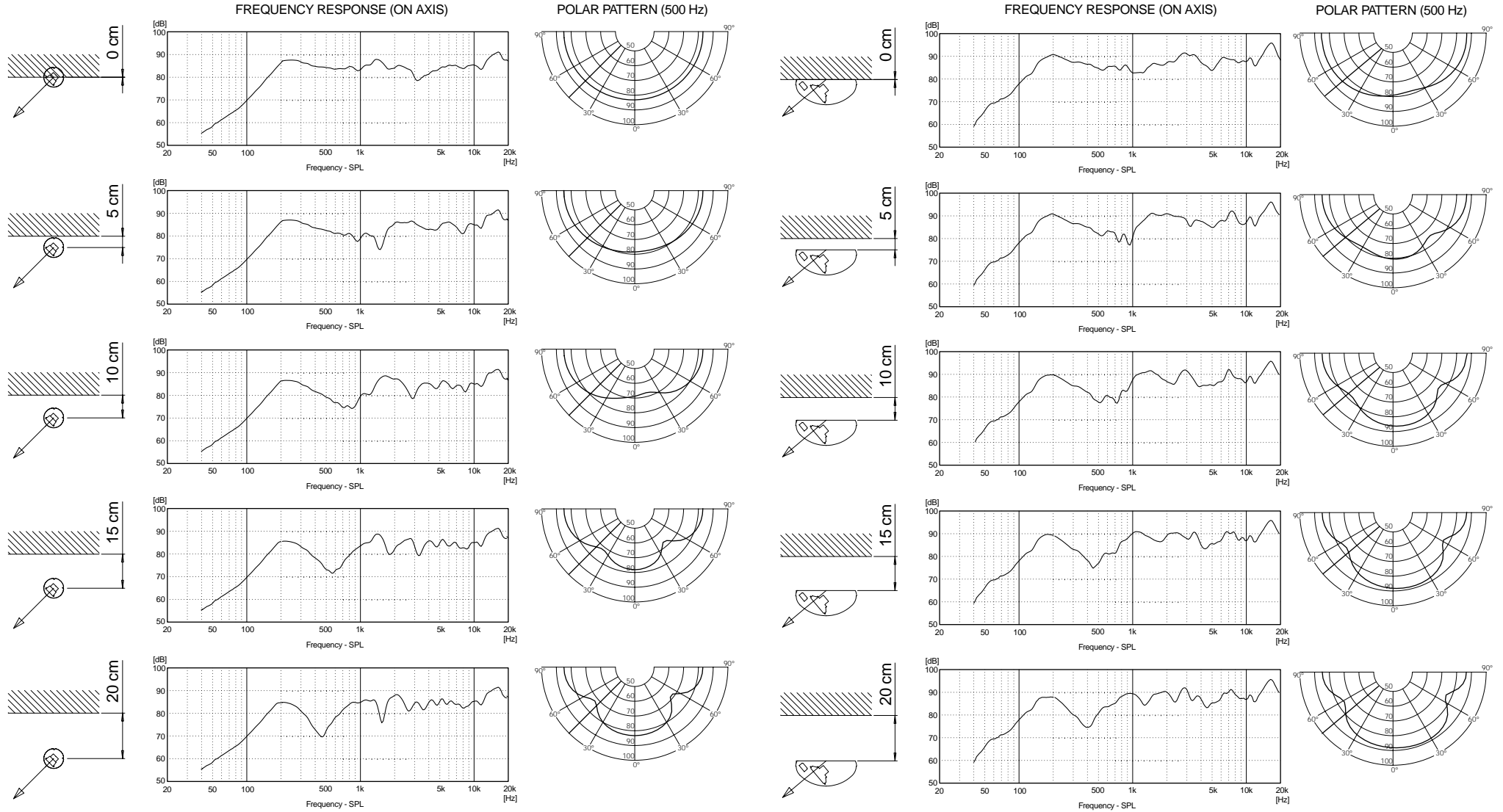


# The H series "Minimum Reflection" Advantage

## Semi-Flush VS. Bracket-Mounted Speakers

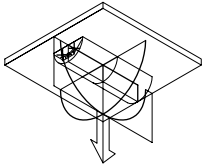
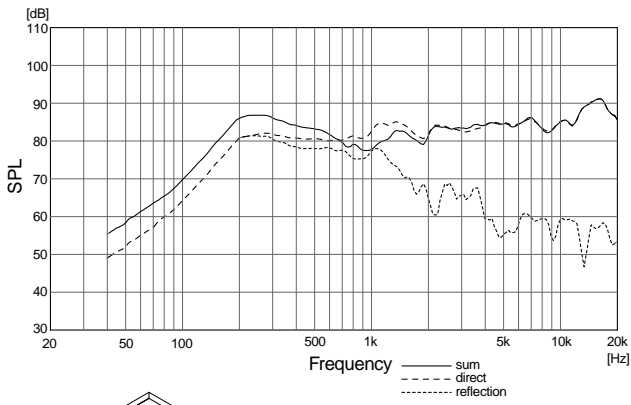
The measured data below graphically illustrates the significant frequency response degradation in the lower mid-range when mounting a speaker 5–20 cm (2–8") from a surface (typical with bracket-mounted speakers). Surface reflections combine out-of-phase with the direct sound and cause cancellations. The

H Series semi-flush mounting (0 cm diagrams) minimizes the out of-phase reflections by eliminating the distance between the enclosure and the mounting surface. See Frequency Response plots for H Series direct, reflected and summed response.



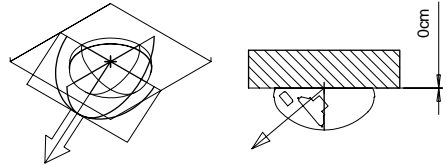
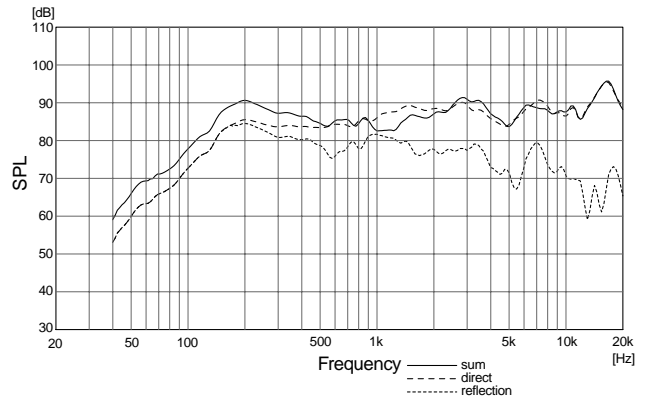
# Frequency Response H-1

## Direct, Reflected and Summed Response (0°)

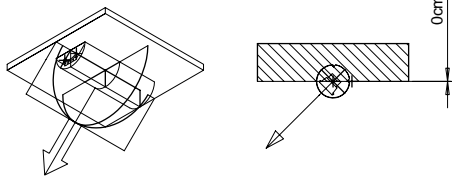
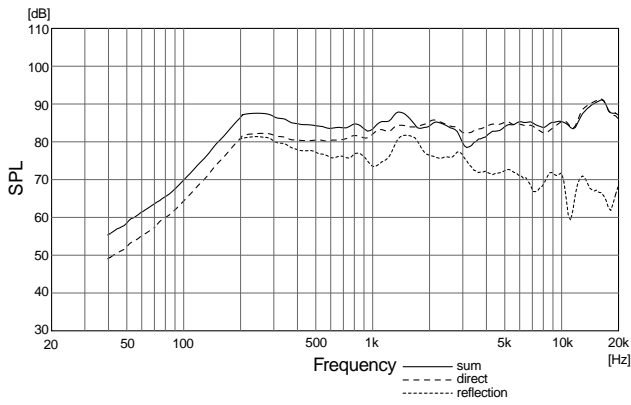


# Frequency Response H-2/H-2WP

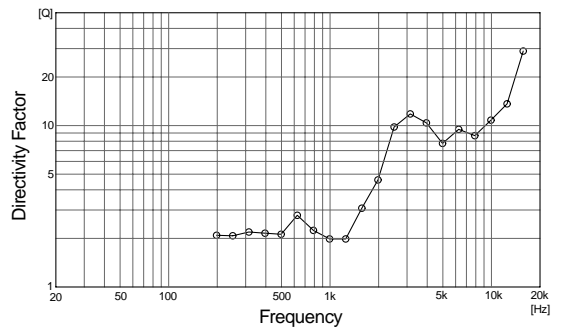
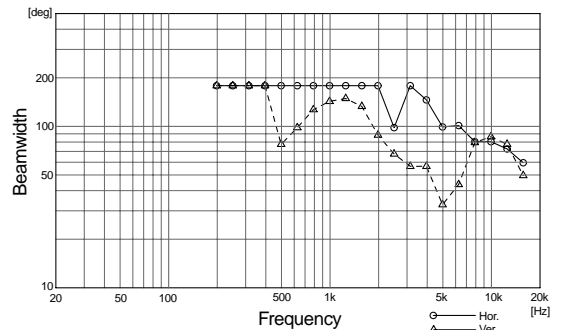
## Direct, Reflected and Summed Response



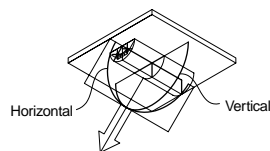
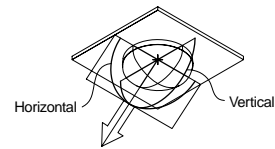
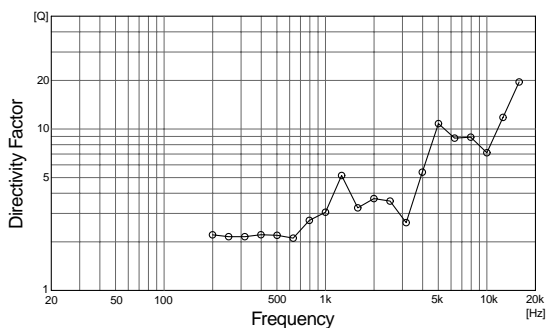
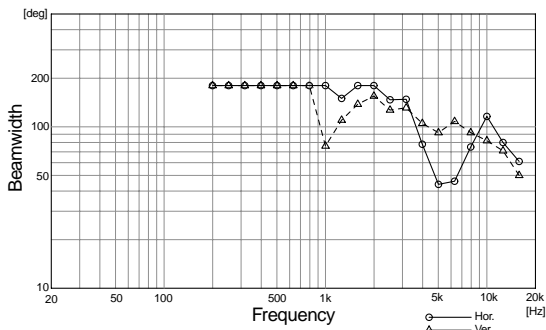
## Direct, Reflected and Summed Response (-45°)



## Beamwidth and Directivity H-2/H-2WP



## Beamwidth and Directivity H-1



## SPECIFICATIONS

	H-1	H-2 / H-2WP
<b>Enclosure Type</b>	Sealed type	Sealed type
<b>Power Handling</b>	90 W (continuous program / 4 Ω) 30 W (continuous pink noise / 4 Ω)	120 W (continuous program / 4 Ω) 40 W (continuous pink noise / 4 Ω)
<b>Rated Input</b>	12 W (16 Ω, high impedance)	12 W (16 Ω, high impedance)
<b>Rated Impedance</b>	4 Ω, 16 Ω 100 V line: 830 Ω (12 W), 1.7 kΩ (6 W), 3.3 kΩ (3 W) 70 V line: 420 Ω (12 W), 830 Ω (6 W), 1.7 kΩ (3 W), 3.3 kΩ (1.5 W)	4 Ω, 16 Ω 100 V line: 830 Ω (12 W), 1.7 kΩ (6 W), 3.3 kΩ (3 W) 70 V line: 420 Ω (12 W), 830 Ω (6 W), 1.7 kΩ (3 W), 3.3 kΩ (1.5 W)
<b>Output Sound Pressure Level</b>	85 dB (1 W, 1 m), mounted in half-opened space	88 dB (1 W, 1 m), mounted in half-opened space
<b>Frequency Response</b>	120 – 20,000 Hz	100 – 20,000 Hz
<b>Speaker Element</b>	Low frequency : 8 cm x 5 cm cone woofer (neodymium magnet) High frequency : Balanced dome tweeter	Low frequency : 10 cm cone woofer (neodymium magnet) High frequency : Balanced dome tweeter
<b>Input Terminal</b>	Detachable screw terminal, (+) / (-) 2 each (for bridging connection)	Detachable screw terminal, (+) / (-) 2 each (for bridging connection)
<b>Usable Cable</b>	Solid cable, stranded cable : 0.2 – 2.5 mm <sup>2</sup> (AWG No. 24 – 14 equivalent)	Solid cable, stranded cable : 0.2 – 2.5mm <sup>2</sup> (AWG No. 24 – 14 equivalent)
<b>Finish</b>	Cover : Fire – resistant ABS resin, white Grille : Rolled steel plate, white, paint Adapter frame : Stainless steel	<b>H -2</b> Grille : Steel plate, white, paint Frame : Fire – resistant ABS resin, white Base Frame : Steel plate  <b>H -2WP</b> Grille: Stainless plate, white, paint Frame: ABS resin, white Base Frame: Stainless plate
<b>Dimensions</b>	312 (W) x 126 (H) x 90 (D) mm	∅ 268 x 111 mm
<b>Weight</b>	1.5 kg (including adapter frame)	2.1 kg (Including Base Frame)
<b>Accessories</b>	Adapter frame .....1 Mounting screw (M4 x 25) .....4 Hole pattern paper.....1	Base frame .....1
<b>Usable Electrical Box</b>	_____	1 – gang size switch box (with cover)