

# HS Series Coaxial Array Speakers



## DESCRIPTION

One of the most difficult speaker requirements to satisfy is a cost-effective mid-size speaker system that offers high quality sound no matter what the application. TOA HS Series speakers are equipped with  $90^\circ \times 40^\circ$  directivity control. This useful feature allows tailoring the speaker's dispersion characteristics to better suit the acoustic environment in which it is installed. The versatile HS-1200/1500 Series are compatible for use with 100V/70V lines for distributed applications. The HS Series speakers are exceptional in offering useful features at an attractive price.

## FEATURES

### Large diameter woofer (12"/15") in a compact, lightweight enclosure

With its compact dimensions and light weight, the HS Series proves ideal for use in mid to small-size venues, including restaurants and pubs, conference rooms and lecture halls, schools and similar locations, as well as for temporary installations.

**Uniform high quality sound** is made possible by mounting the high frequency driver array in a coaxial configuration with the woofer.

- Extended bass frequencies for rich music reproduction
- Optimal sound delivery with well integrated low and high frequencies

**Optimal choice for acoustical problems caused by high ceilings** that tend to reduce the clarity of sound reproduction, such as in sports facilities, multi-purpose halls and houses of worship.

### Coaxial Tweeter Array delivers accurate directivity control

HS Series speakers are equipped with  $90^\circ \times 40^\circ$  directivity control. Well-balanced sound is delivered without treble attenuation to where the speaker is aimed, filling the acoustic space with clear sound.

### Versatile installation

**Unobtrusive design makes an ideal choice for permanent installations.**

Optional dedicated mounting brackets facilitates speaker installs on walls and ceilings.

**Accessory handle for easy transportability**

**Secure floor setting**

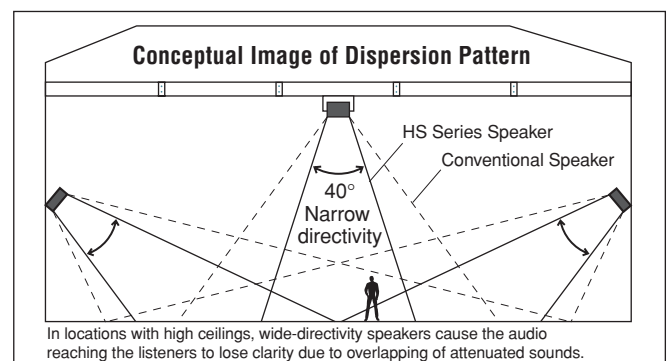
- Accessory rubber feet for straight positioning.
- Wedge-shape enclosure enables use as a floor monitor.

### Lineup:

12"/15" woofer, black and white finishes, low-impedance and high/low-impedance models are available.

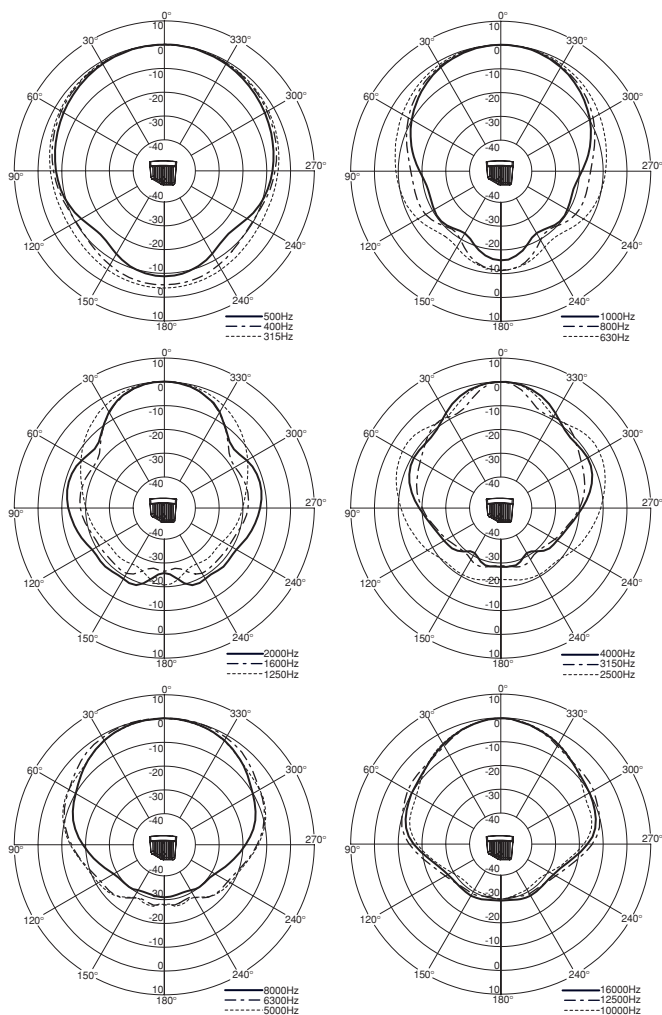
### Twin input terminal sets

The speakon terminal is ideal for quick temporary installation and for testing purposes. The screw terminals are recommended for long-term installation.

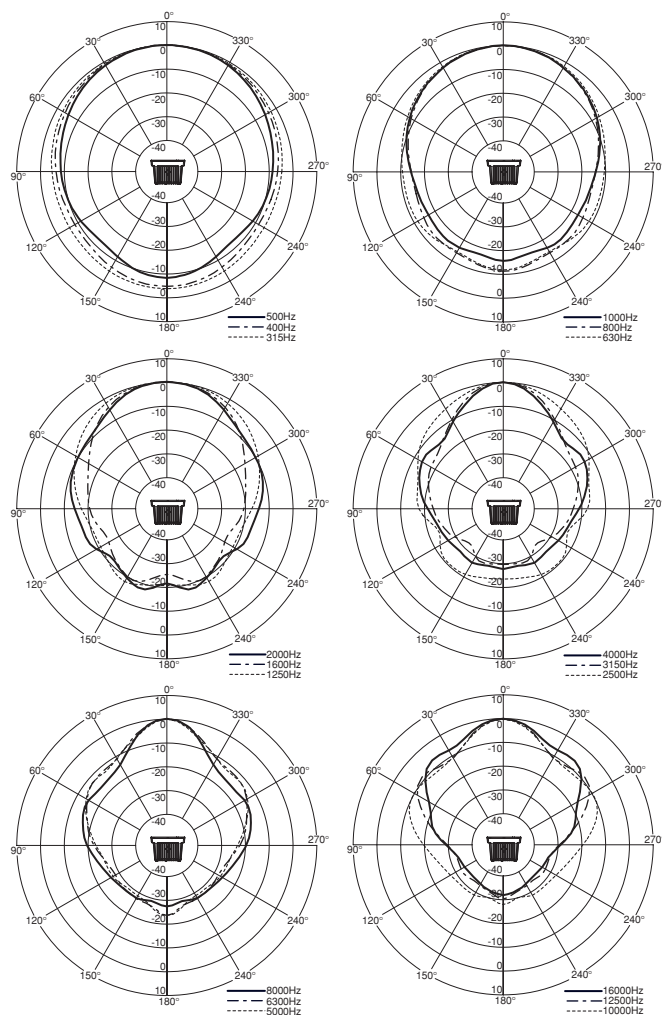


## HS-120B/120W

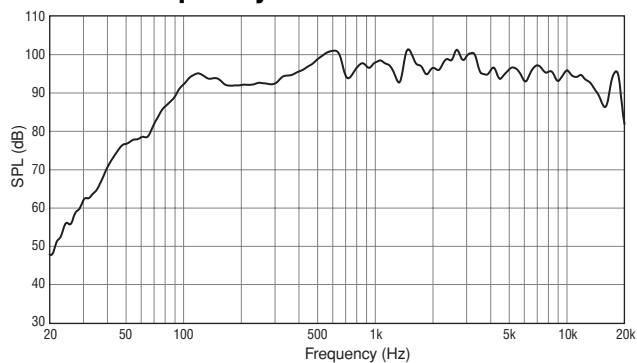
### Polar Response (Horizontal)



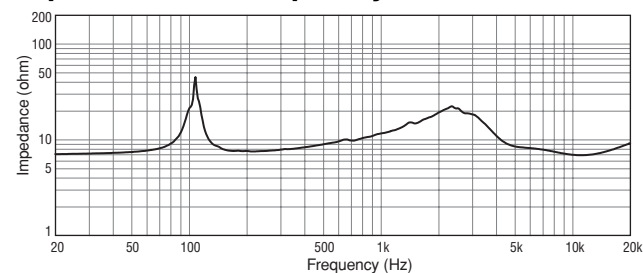
### Polar Response (Vertical)



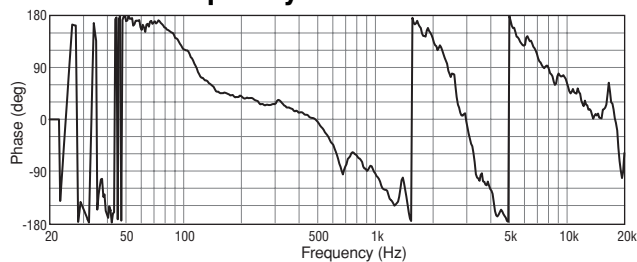
### SPL vs. Frequency



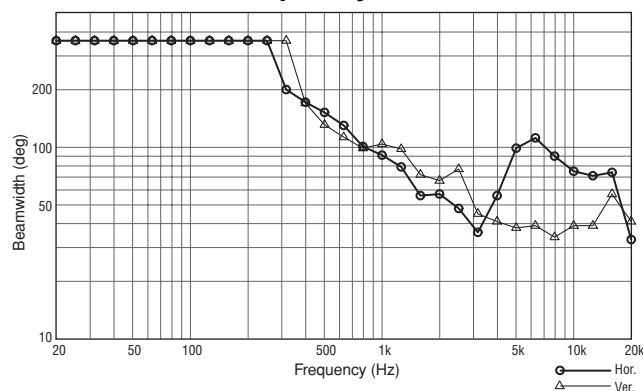
### Impedance vs. Frequency



### Phase vs. Frequency

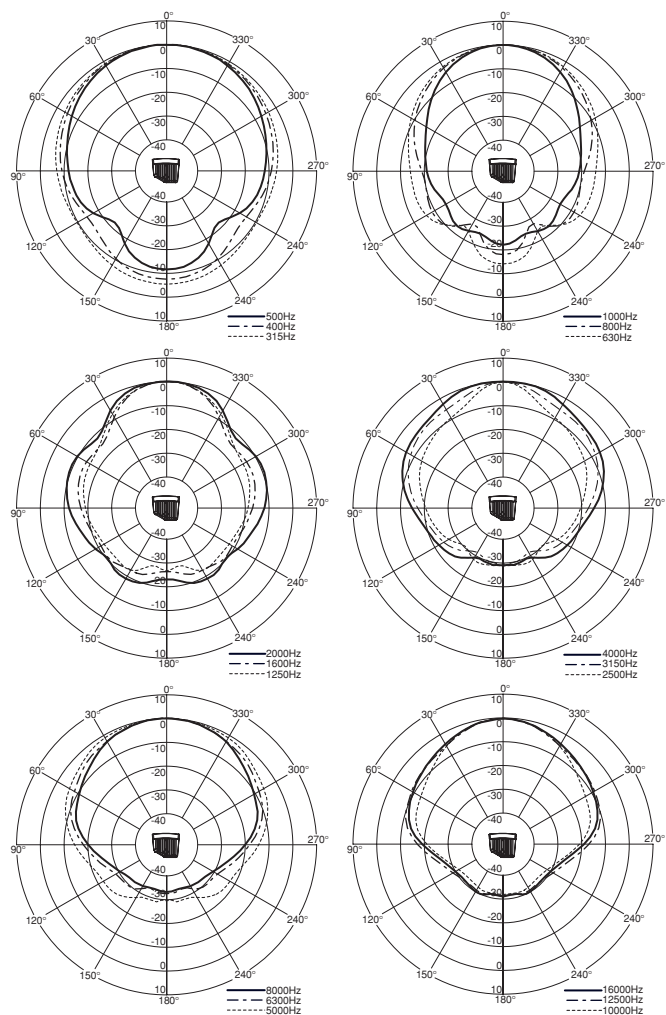


### Beamwidth vs. Frequency

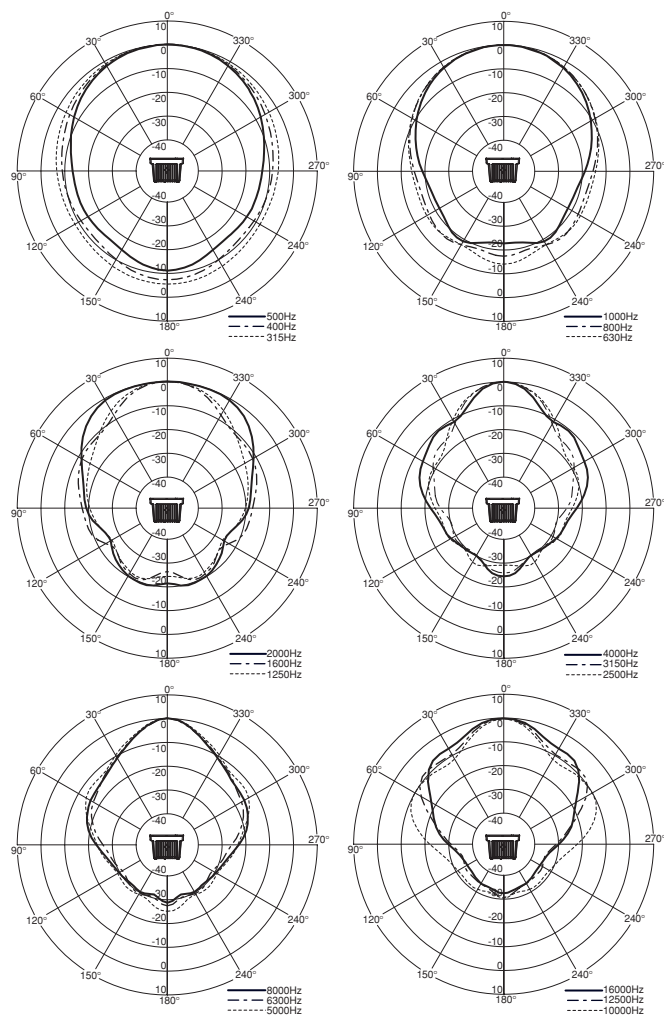


# HS-150B/150W

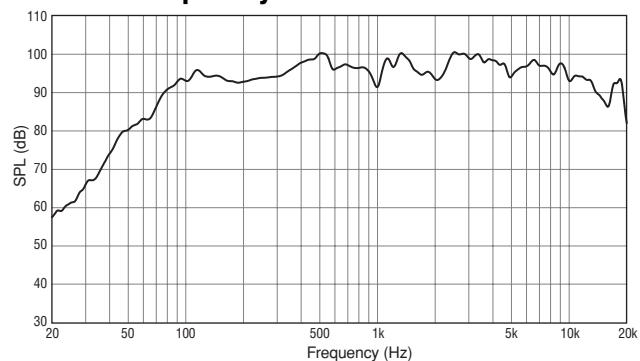
## Polar Response (Horizontal)



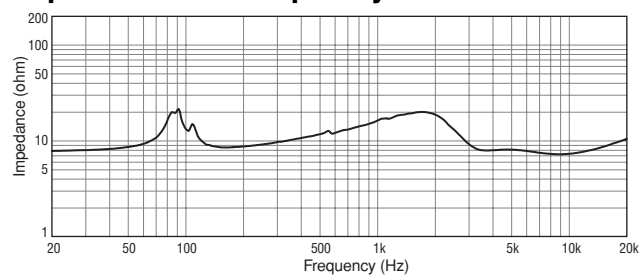
## Polar Response (Vertical)



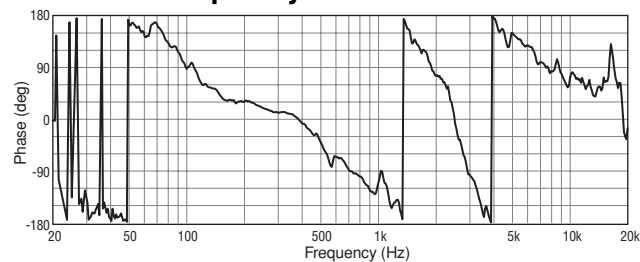
## SPL vs. Frequency



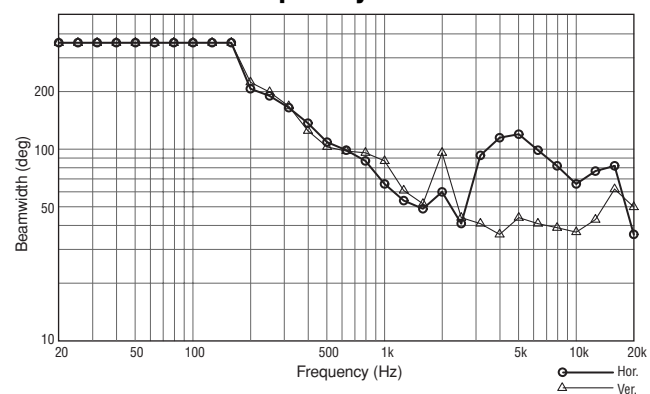
## Impedance vs. Frequency



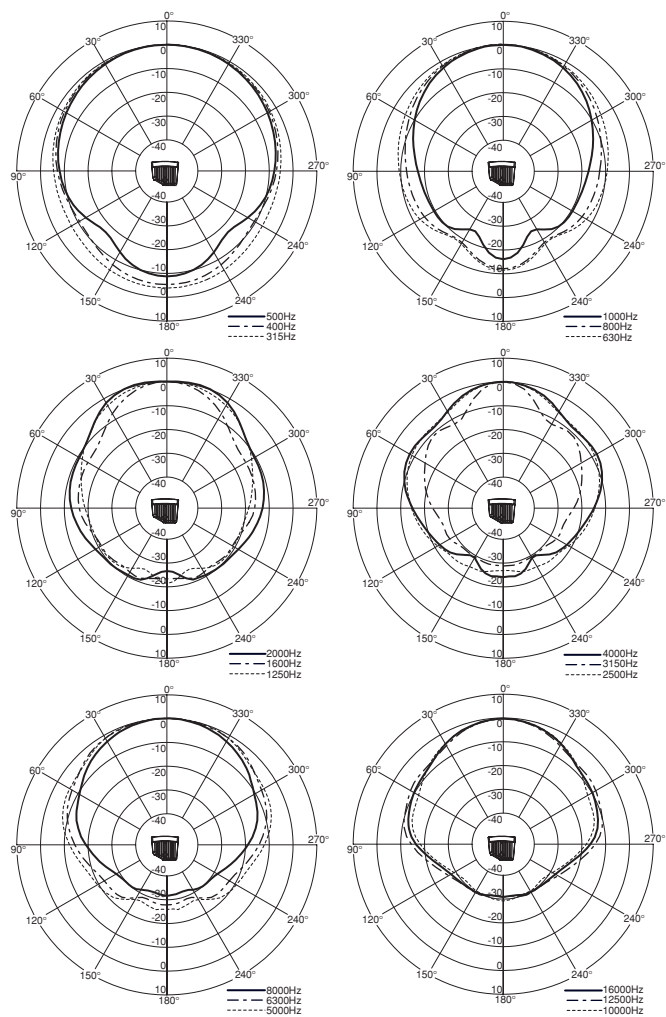
## Phase vs. Frequency



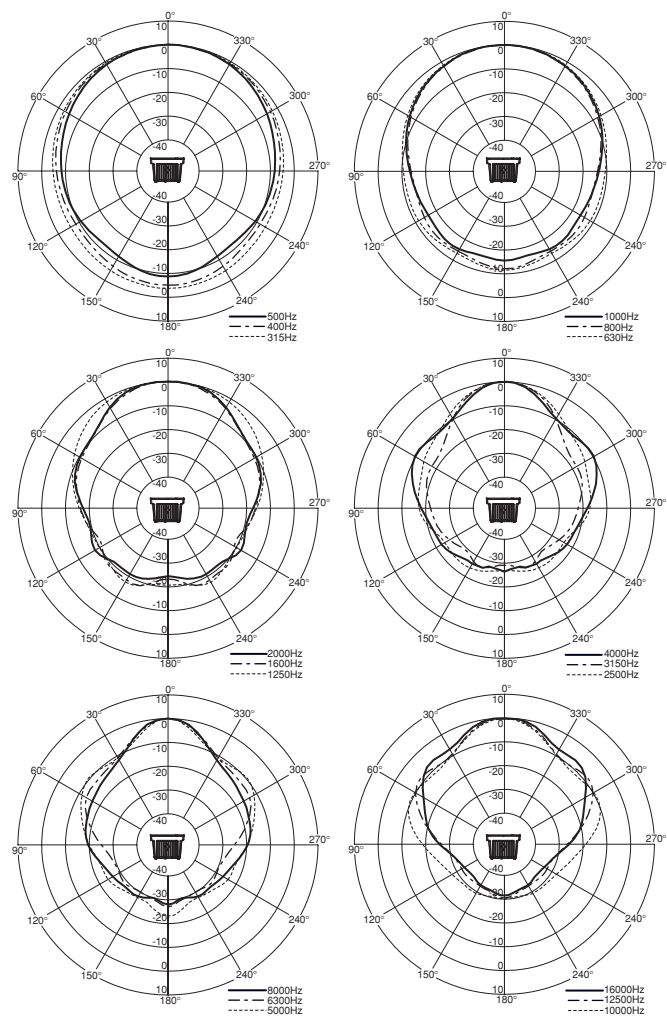
## Beamwidth vs. Frequency



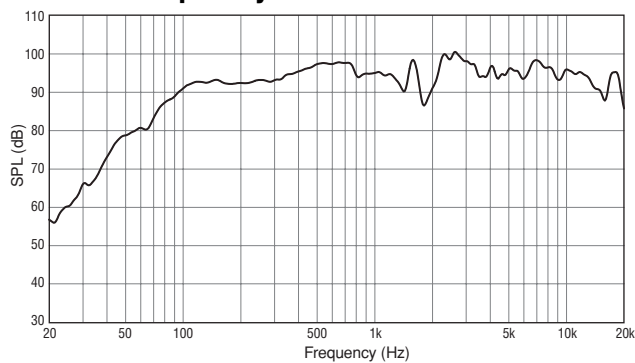
## Polar Response (Horizontal)



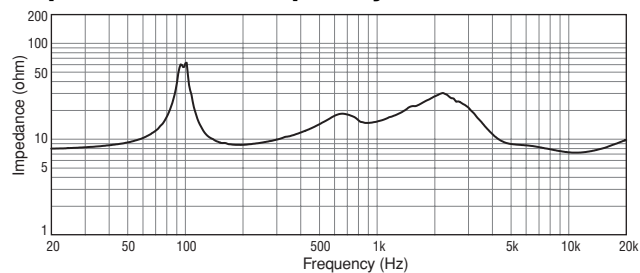
## Polar Response (Vertical)



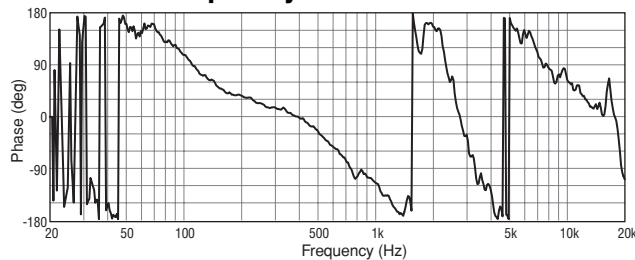
## SPL vs. Frequency



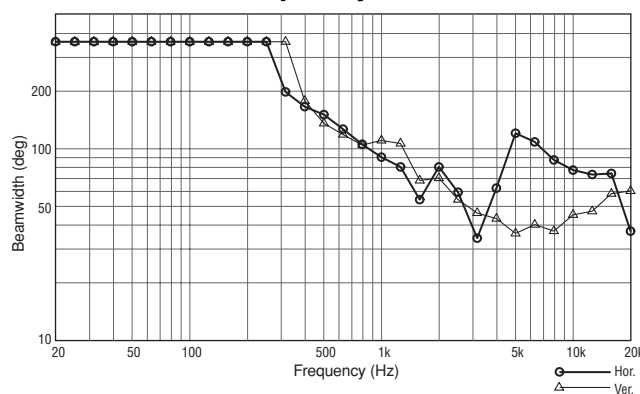
## Impedance vs. Frequency



## Phase vs. Frequency



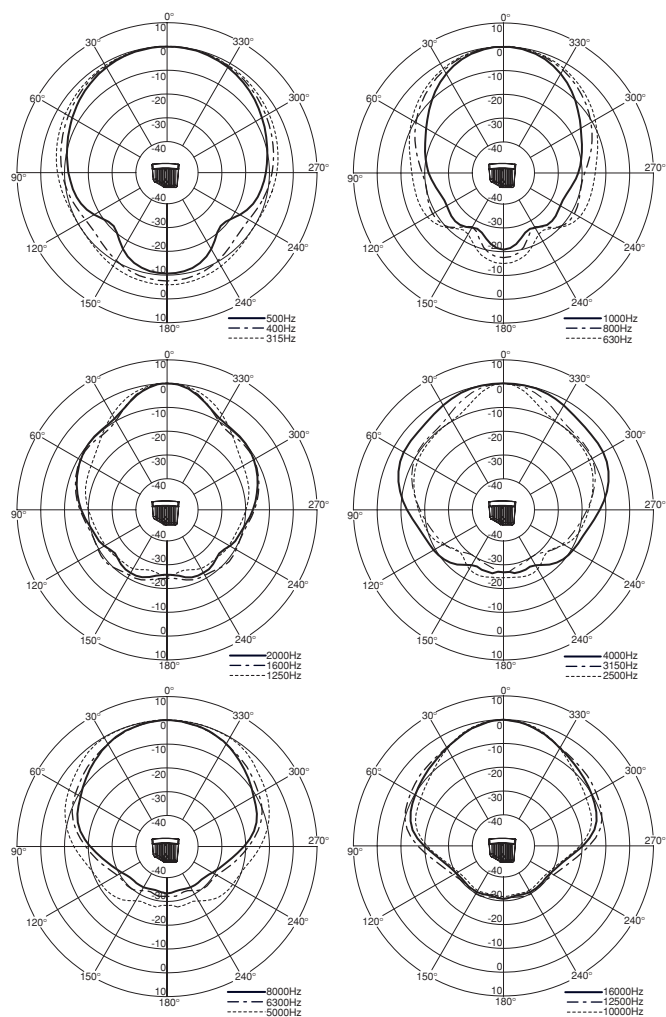
## Beamwidth vs. Frequency



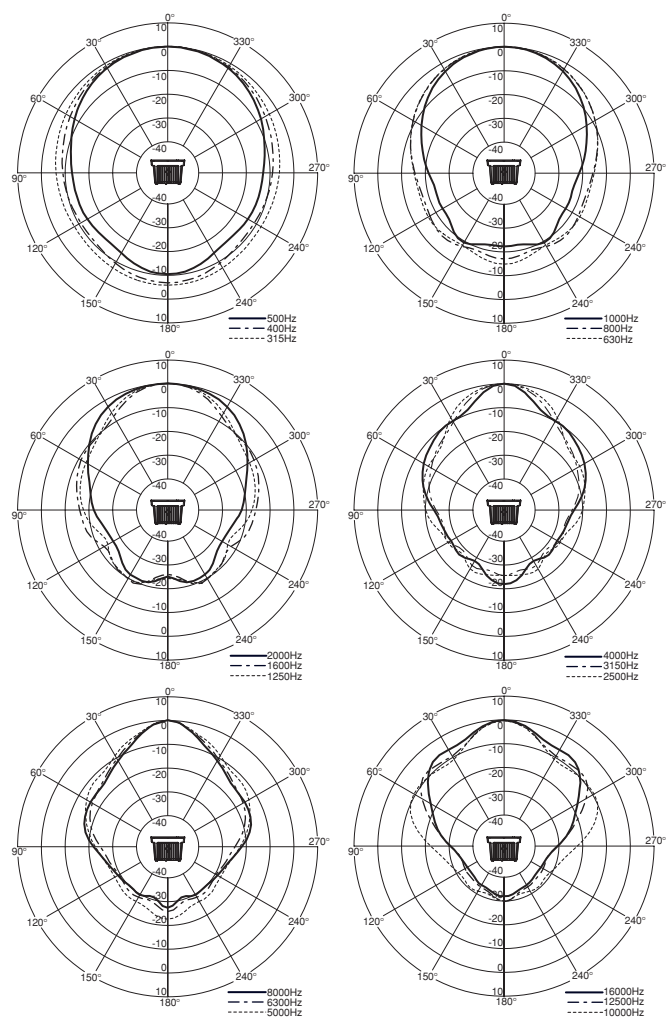


# HS-1500BT/1500WT

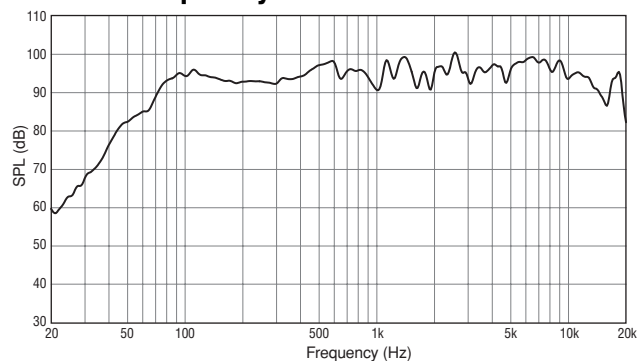
## Polar Response (Horizontal)



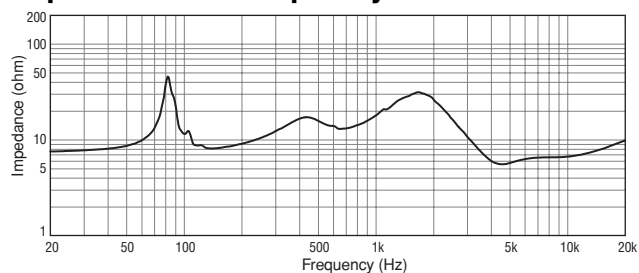
## Polar Response (Vertical)



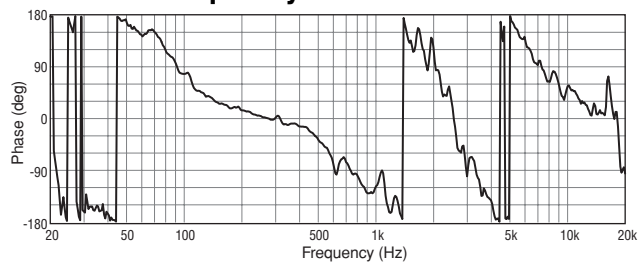
## SPL vs. Frequency



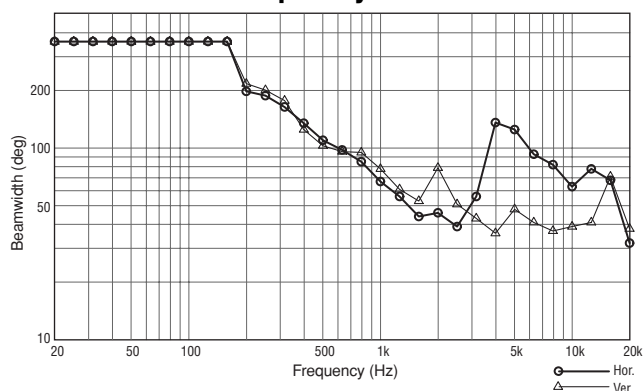
## Impedance vs. Frequency



## Phase vs. Frequency

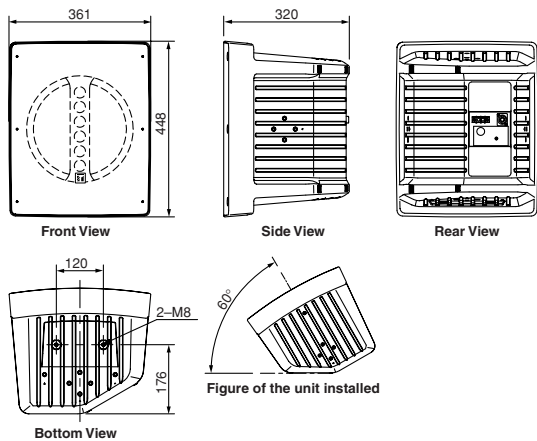


## Beamwidth vs. Frequency



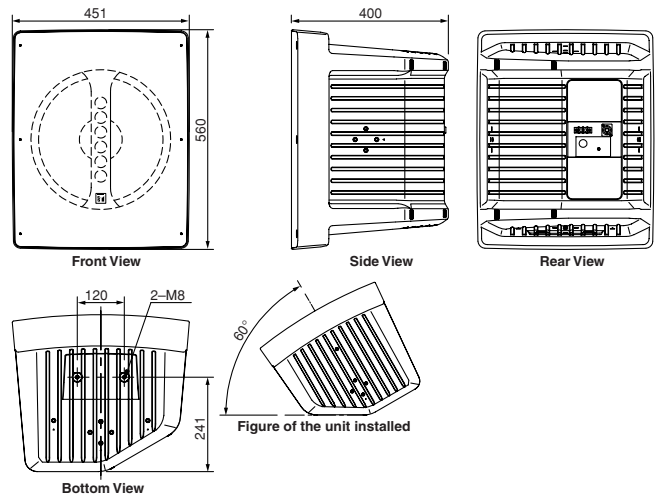
## HS-120B/120W/1200BT/1200WT

### APPEARANCE AND DIMENSIONAL DIAGRAM



## HS-1500B/1500W/1500BT/1500WT

### APPEARANCE AND DIMENSIONAL DIAGRAM

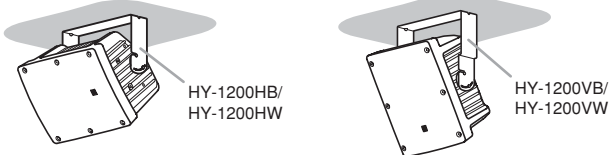


### Optional Brackets for HS-120/1200 Series

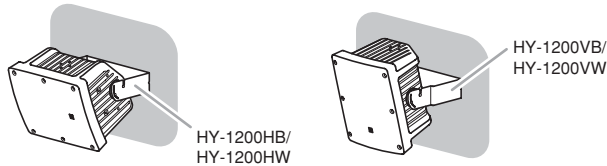
#### For wall/ceiling mount



#### [Ceiling installation]

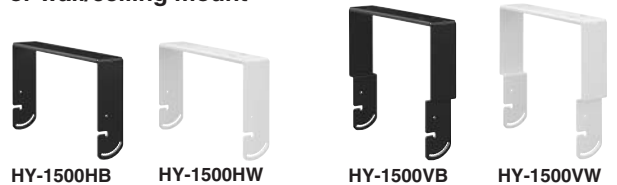


#### [Wall installation]

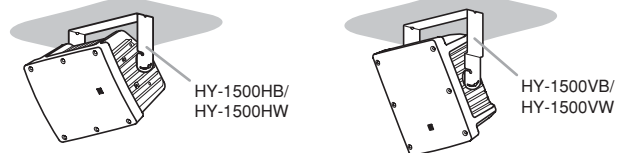


### Optional Brackets for HS-150/1500 Series

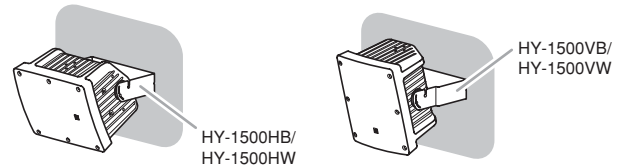
#### For wall/ceiling mount



#### [Ceiling installation]

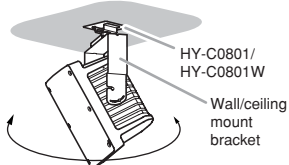


#### [Wall installation]

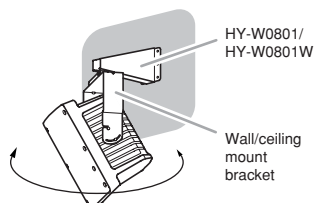
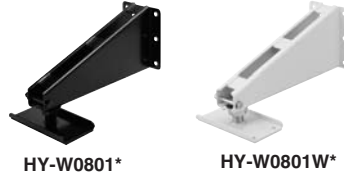


The following brackets allow a speaker's horizontal angle to be adjusted.

#### For ceiling mount

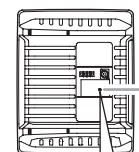


#### For wall mount



### Impedance Change

(HS-1200BT/1200WT/1500BT/1500WT)



| IMR  | 100 LINE | 70 LINE |
|------|----------|---------|
| 670Ω | 15W      | 7.5W    |
| 330Ω | 30W      | 15W     |
| 170Ω | 60W      | 30W     |
| 83Ω  | 60W      | 60W     |
| 8Ω   | OFF      |         |

Rotary switch

The figure represents factory-preset position.

\*To be used in conjunction with HY-1200/1500 Series brackets.

## ARCHITECTURAL AND ENGINEERING SPECIFICATIONS

### HS-120B/120W

The speaker shall be the two-way speaker with a sealed box enclosure with polypropylene and a protective punched front grill with a surface-treated steel plate. The continuous pink noise shall be 100 W at 8 ohms and continuous program power rating of 300 W at 8 ohms. The speaker shall feature a 30 cm (12") woofer and a 6-balanced-dome tweeters array with a 90° × 40° dispersion. Frequency response shall be 80 to 20k Hz, with crossover at 3k Hz. Sensitivity shall be rated at 97 dB (1 W, 1 m). The speaker system shall be designed for both fixed installation uses and on-the-road and shall be capable of being easily carried with an accessory handle. Its built-in overload protection circuitry for tweeter shall cut off a signal when an excessive input signal is received. Input connections shall be via a speakon connector or screw terminal.

The speaker system shall weigh 8.5 kg and shall have dimensions of 361(W) × 448(H) × 320(D) mm. The operating temperature range shall be between -10°C and +50°C. The speakers shall be easily mounted in vertical or horizontal positions, with a wide range of optional brackets.

The two-way speaker system shall be a TOA model HS-120B/HS-120W or approved equivalent.

The wall/ceiling-mount bracket shall be TOA model HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW.

The ceiling-mount bracket used in conjunction with HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW shall be TOA model HY-C0801/ HY-C0801W.

The wall-mount bracket used in conjunction with HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW shall be TOA model HY-W0801/HY-W0801W.

### HS-1200BT/1200WT

The speaker shall be the two-way speaker with a sealed box enclosure with polypropylene and a protective punched front grill with a surface-treated steel plate. The speaker shall be compatible with low and high impedance speaker systems and include a built-in 100V matching transformer. The rear panel shall have screwdriver-adjustable tap settings of: 60W, 30W, 15W and 8 ohms. The rated input shall be 60W, the continuous pink noise shall be 100W at 8 ohms and continuous program shall be 300W at 8 ohms. The speaker shall feature a 30 cm (12") woofer and a 6-balanced-dome tweeters array with a 90° × 40° dispersion. Frequency response shall be 70 to 20k Hz, with crossover at 3k Hz. Sensitivity shall be rated at 97 dB (1 W, 1 m). The speaker system shall be designed for both fixed installation uses and on-the-road and shall be capable of being easily carried with an accessory handle. Its built-in overload protection circuitry for tweeter shall cut off a signal when an excessive input signal is received. Input connections shall be via a speakon connector or screw terminal.

The speaker system shall weigh 10 kg and shall have dimensions of 361(W) × 448(H) × 320(D) mm. The operating temperature range shall be between -10°C and +50°C. The speakers shall be easily mounted in vertical or horizontal positions, with a wide range of optional brackets.

The two-way speaker system shall be a TOA model HS-1200BT/HS-1200WT or approved equivalent.

The wall/ceiling-mount bracket shall be TOA model HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW.

The ceiling-mount bracket used in conjunction with HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW shall be TOA model HY-C0801/HY-C0801W.

The wall-mount bracket used in conjunction with HY-1200HB/HY-1200HW/HY-1200VB/HY-1200VW shall be TOA model HY-W0801/HY-W0801W.

### HS-150B/150W

The speaker shall be the two-way speaker with a sealed box enclosure with polypropylene and a protective punched front grill with a surface-treated steel plate. The continuous pink noise shall be 100 W at 8 ohms and continuous program power rating of 300 W at 8 ohms. The speaker shall feature a 38 cm (15") woofer and a 6-balanced-dome tweeters array with a 90° × 40° dispersion. Frequency response shall be 70 to 20k Hz, with crossover at 3k Hz. Sensitivity shall be rated at 98 dB (1 W, 1 m). The speaker system shall be designed for both fixed installation uses and on-the-road and shall be capable of being easily carried with an accessory handle. Its built-in overload protection circuitry for tweeter shall cut off a signal when an excessive input signal is received. Input connections shall be via a speakon connector or screw terminal.

The speaker system shall weigh 12 kg and shall have dimensions of 451(W) × 560(H) × 400(D) mm. The operating temperature range shall be between -10°C and +50°C. The speakers shall be easily mounted in vertical or horizontal positions, with a wide range of optional brackets.

The two-way speaker system shall be a TOA model HS-150B/HS-150W or approved equivalent.

The wall/ceiling-mount bracket shall be TOA model HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW.

The ceiling-mount bracket used in conjunction with HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW shall be TOA model HY-C0801/ HY-C0801W.

The wall-mount bracket used in conjunction with HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW shall be TOA model HY-W0801/HY-W0801W.

### HS-1500BT/1500WT

The speaker shall be the two-way speaker with a sealed box enclosure with polypropylene and a protective punched front grill with a surface-treated steel plate. The speaker shall be compatible with low and high impedance speaker systems and include a built-in 100V matching transformer. The rear panel shall have screwdriver-adjustable tap settings of: 60W, 30W, 15W and 8 ohms. The rated input shall be 60W, the continuous pink noise shall be 100W at 8 ohms and continuous program shall be 300W at 8 ohms. The speaker shall feature a 38 cm (15") woofer and a 6-balanced-dome tweeters array with a 90° × 40° dispersion. Frequency response shall be 60 to 20k Hz, with crossover at 3k Hz. Sensitivity shall be rated at 98 dB (1 W, 1 m). The speaker system shall be designed for both fixed installation uses and on-the-road and shall be capable of being easily carried with an accessory handle. Its built-in overload protection circuitry for tweeter shall cut off a signal when an excessive input signal is received. Input connections shall be via a speakon connector or screw terminal.

The speaker system shall weigh 14 kg and shall have dimensions of 451(W) × 560(H) × 400(D) mm. The operating temperature range shall be between -10°C and +50°C. The speakers shall be easily mounted in vertical or horizontal positions, with a wide range of optional brackets.

The two-way speaker system shall be a TOA model HS-1500BT/HS-1500WT or approved equivalent.

The wall/ceiling-mount bracket shall be TOA model HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW.

The ceiling-mount bracket used in conjunction with HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW shall be TOA model HY-C0801/HY-C0801W.

The wall-mount bracket used in conjunction with HY-1500HB/HY-1500HW/HY-1500VB/HY-1500VW shall be TOA model HY-W0801/HY-W0801W.

## SPECIFICATIONS

| Model No.               | HS-120B  |   | HS-120W  |   | HS-1200BT   |   | HS-1200WT  |  |
|-------------------------|--|---|--|---|---|---|--|--|
| Enclosure               | Sealed type  |   |  |   |   |   |  |  |
| Rated Input             | —  |   |  |   | 60W (High impedance)  |   |  |  |
| Power Handling Capacity | Continuous pink noise: 100W, Continuous program: 300W  |   |  |   |   |   |  |  |
| Rated Impedance         | 8Ω   |   |  |   | 8Ω<br>100V line: 170Ω (60W), 330Ω (30W), 670Ω (15W)<br>70V line: 83Ω (60W), 170Ω (30W), 330Ω (15W), 670Ω (7.5W) |   |  |  |
| Sensitivity             | 97dB (1W, 1m)  |   |  |   |   |   |  |  |
| Frequency Response      | 80 – 20,000Hz  |   |  |   | 70 – 20,000Hz   |   |  |  |
| Crossover Frequency     | 3kHz   |   |  |   |   |   |  |  |
| Directivity Angle       | Horizontal: 90°, Vertical: 40°   |   |  |   |   |   |  |  |
| Speaker Component       | Low frequency: 30cm (12") cone-type,<br>High frequency: Balanced dome tweeter × 6                                  |   |  |   |   |   |  |  |
| Input Terminal          | NEUTRIK NL4MP Speakon and M4 screw terminal, distance between barriers: 9mm  |   |  |   |   |   |  |  |
| Operating Temperature   | −10°C to +50°C   |   |  |   |   |   |  |  |
| Finish                  | Enclosure: Polypropylene, black<br>Punched net: Surface-treated steel plate, black                                 |   | Polypropylene, white<br>Surface-treated steel plate, white |   | Polypropylene, black<br>Surface-treated steel plate, black  |   | Polypropylene, white<br>Surface-treated steel plate, white |  |
| Dimensions              | 361 (W) × 448 (H) × 320 (D)mm  |   |  |   |   |   |  |  |
| Weight                  | 8.5 kg   |   |  |   | 10 kg   |   |  |  |
| Accessories             | Handle × 1, Handle fitting bracket × 2, Handle mounting screw × 2, Rubber foot × 2, Rubber foot mounting screw × 2 |   |  |   |   |   |  |  |
| Options                 | Mounting bracket:  | HY-1200VB (for vertical speaker mounting) | HY-1200VW (for vertical speaker mounting)                  | HY-1200VB (for vertical speaker mounting) | HY-1200VW (for vertical speaker mounting)   | HY-1200HB (for horizontal speaker mounting) | HY-1200HW (for horizontal speaker mounting)                |  |
|                         | Ceiling mount bracket:   | HY-C0801                                  | HY-C0801W  | HY-C0801                                  | HY-C0801  | HY-C0801                                    | HY-C0801W  |  |
|                         | Wall mount bracket:  | HY-W0801                                  | HY-W0801W  | HY-W0801                                  | HY-W0801  | HY-W0801                                    | HY-W0801W  |  |
|                         | Speaker stand:   | ST-33B                                    | ST-33B   | ST-33B                                    | ST-33B  | ST-33B                                      | ST-33B   |  |

| Model No.               | HS-150B   |  | HS-150W  |  | HS-1500BT | HS-1500WT |
|-------------------------|---|--|--|--|-----------|-----------|
| Enclosure               | Sealed type   |  |  |  |           |           |
| Rated Input             | —   |  |  | 60W (High impedance)   |           |           |
| Power Handling Capacity | Continuous pink noise: 100W, Continuous program: 300W   |  |  |  |           |           |
| Rated Impedance         | 8Ω  |  |  | 8Ω<br>100V line: 170Ω (60W), 330Ω (30W), 670Ω (15W)<br>70V line: 83Ω (60W), 170Ω (30W), 330Ω (15W), 670Ω (7.5W)              |           |           |
| Sensitivity             | 98dB (1W, 1m)   |  |  |  |           |           |
| Frequency Response      | 70 – 20,000Hz   |  |  | 60 – 20,000Hz  |           |           |
| Crossover Frequency     | 3kHz  |  |  |  |           |           |
| Directivity Angle       | Horizontal: 90°, Vertical: 40°  |  |  |  |           |           |
| Speaker Component       | Low frequency: 38cm (15") cone-type,<br>High frequency: Balanced dome tweeter × 6   |  |  |  |           |           |
| Input Terminal          | NEUTRIK NL4MP Speakon and M4 screw terminal, distance between barriers: 9mm   |  |  |  |           |           |
| Operating Temperature   | −10°C to +50°C  |  |  |  |           |           |
| Finish                  | Enclosure: Polypropylene, black<br>Punched net: Surface-treated steel plate, black  | Polypropylene, white<br>Surface-treated steel plate, white   | Polypropylene, black<br>Surface-treated steel plate, black   | Polypropylene, white<br>Surface-treated steel plate, white   |           |           |
| Dimensions              | 451 (W) × 560 (H) × 400 (D)mm   |  |  |  |           |           |
| Weight                  | 12 kg   |  |  | 14 kg  |           |           |
| Accessories             | Handle × 1, Handle fitting bracket × 2, Handle mounting screw × 2, Rubber foot × 2, Rubber foot mounting screw × 2                                      |  |  |  |           |           |
| Options                 | Mounting bracket: HY-1500VB (for vertical speaker mounting)<br>Ceiling mount bracket: HY-C0801<br>Wall mount bracket: HY-W0801<br>Speaker stand: ST-33B | HY-1500VW (for vertical speaker mounting)<br>HY-1500HW (for horizontal speaker mounting)<br>HY-C0801W<br>HY-W0801W<br>ST-33B | HY-1500VB (for vertical speaker mounting)<br>HY-1500HB (for horizontal speaker mounting)<br>HY-C0801<br>HY-W0801<br>ST-33B | HY-1500VW (for vertical speaker mounting)<br>HY-1500HW (for horizontal speaker mounting)<br>HY-C0801W<br>HY-W0801W<br>ST-33B |           |           |



TOA Corporation

www.toa.jp

Specifications are subject to change without notice.  
Printed in Japan (0803) 833-61-655-30 U