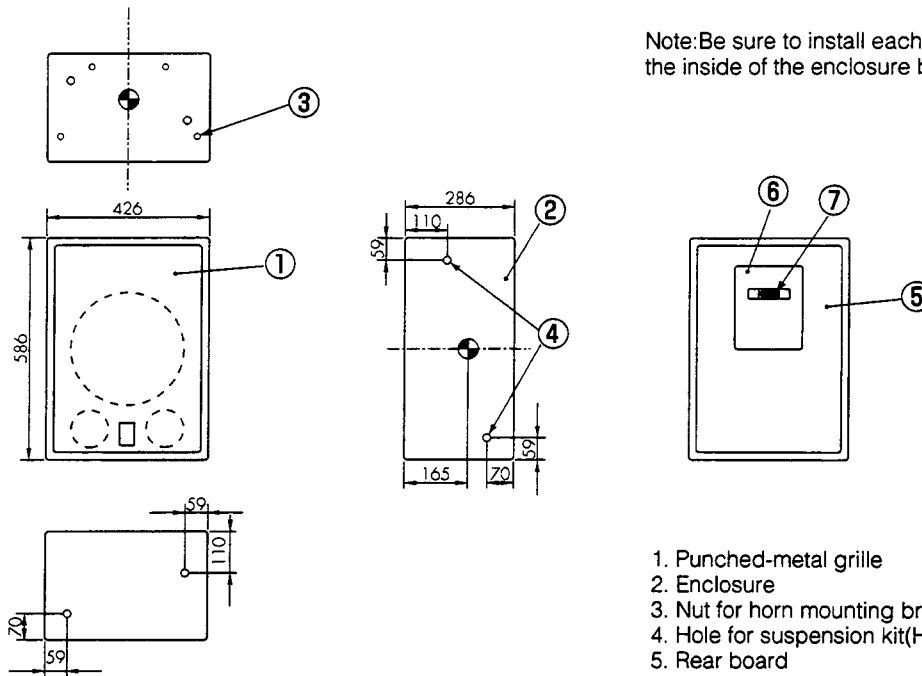


## Low Frequency Enclosure

## Model SB-30S

### APPEARANCE



◆ Stands for the position of the gravity center when the speaker unit HLS30S2-8 is installed inside.

Note: Be sure to install each speaker unit from the inside of the enclosure baffle board.

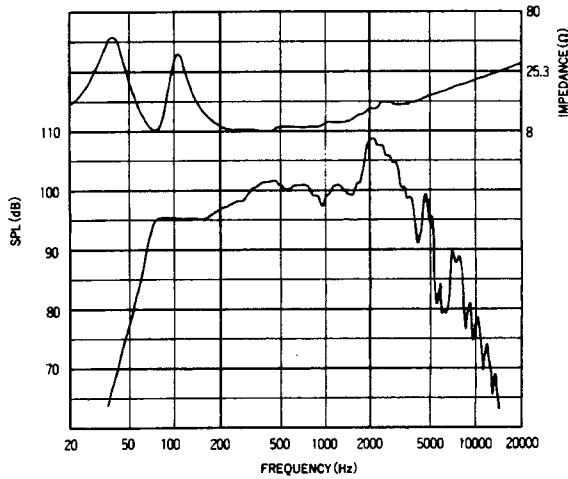
1. Punched-metal grille
2. Enclosure
3. Nut for horn mounting bracket(HY-M94)
4. Hole for suspension kit(HY-38S)
5. Rear board
6. Terminal panel
7. Input terminal

### FEATURES

1. Low frequency, vented(bass-reflex) enclosure for permanent installation.
2. Creates a woofer system that reproduces low frequencies with high efficiencies when the HLS30S2-8 woofer is mounted. The tuning frequency is 75Hz.
3. The speaker unit is mounted to the baffle board from the rear of the enclosure, facilitating maintenance after installation.
4. Creates a wide-range, high-efficient standard speaker system(GS-302S) when used in conjunction with a LE-M94 CD horn, a HFD-220-8 compression driver, and a HLS30S2-8 woofer.
5. It is possible to suspend the SB-30S with the optional HY-38S suspension kit.
6. It is easy to mount the LE-M94 to the enclosure with the optional HY-M94 horn mounting bracket when the standard speaker system is configured.
7. Large input screw terminal.
8. A protective punched-metal grille.
9. Finished with paint(dark gray).

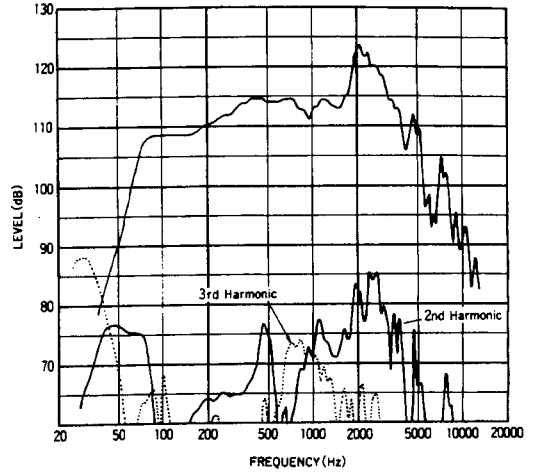
# Characteristic Diagrams(Assembled the HLS30S2-8 Low-Frequency Loudspeaker)

## ● Frequency Response · Impedance Curve



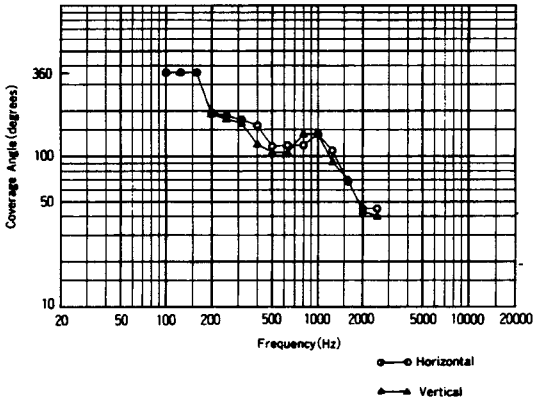
Measured in an anechoic environment at 1 watt and 1 meter.

## ● Harmonic Distortion

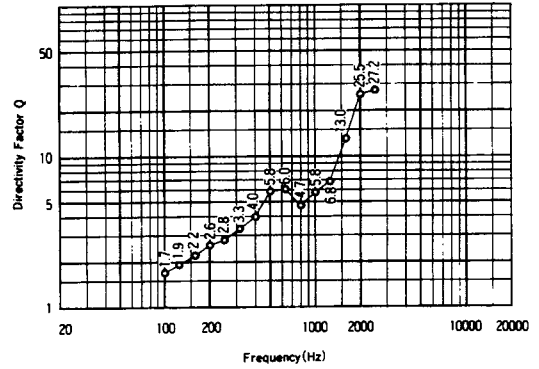


Measured at 30 watts (-10dB power), 1 meter.

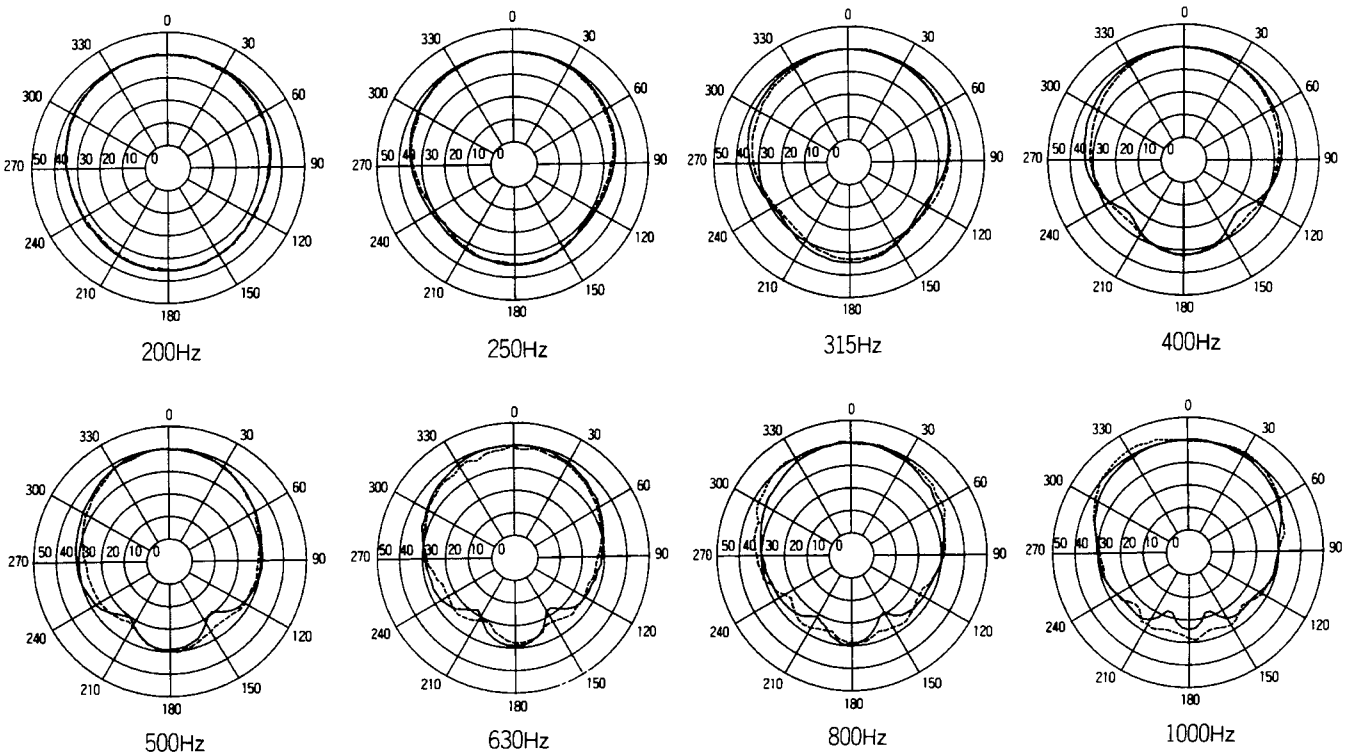
## ● Coverage Angle vs Frequency(-6dB)



## ● Directivity Factor(Q) vs Frequency



## ● Polar Response(1/3 Octave Pink Noise) — Horizontal — Vertical



## Specifications(Assembled the HLS30S2-8 Low-Frequency Loudspeaker)

**Enclosure:**Vented(bass-reflex) type  
**Tuning Frequency:**75 Hz  
**Applicable Speaker Unit:**HLS30S2-8  
**Nominal Impedance:**8 ohms  
**Power Handling**<sup>1</sup>:300 W continuous pink noise  
**Sensitivity**<sup>2</sup>:99 dB(1W/1m)  
**Frequency Range:**65 Hz~4,000 Hz  
**Highest Recommended Crossover Frequency:**1,000 Hz

**Input Terminal:**2P screw terminal(M5)  
**Material:**Particle board  
**Finish:**Paint  
**Dimensions:**586(H)×426(W)×286(D) mm

**Weight**  
Including speaker unit:29kg  
Only enclosure:18kg

**Accessories**  
Rubber spacer:4  
Instruction manual:1  
Warranty card:1  
Rear board mounting screw:8

### Note

1. AES Standard(60 to 600 Hz)
2. Sensitivity is based on a band-limited(100 to 800 Hz) pink noise signal.
3. Specifications are subject to change without notice.

## Installation Examples

The SB-30S is a fixed enclosure for reproducing low frequencies. A high-efficient low frequency speaker system consists of the SB-30S and one HLS30S2-8 woofer, and a high-linearity, wide-range two-way speaker system is configured in addition to TOA's LE-series constant directivity horns and HFD-series compression driver. When driving the speaker system with multi-amplifier operation, the time alignment and speaker system phase can be set to their optimum performance conditions by using our integrated sound processor "SAORI" as a divider. When driving the standard speaker system(GS-302S) with passive operation, use the optional HNW-800 dividing network.

### ●Mounting the Low-Frequency Loudspeaker

1. Remove the rear board.
2. Screw the speaker unit to the baffle board from the inside of the baffle at 8 places.(The screws are attached to the speaker unit.)
3. Connect the cables to the speaker unit. Connect the red cable to the red terminal and connect the black cable to the black terminal.
4. Replace the rear board by screwing at 10 places.

**Note:**Be sure to install the speaker unit from the inside of the enclosure baffle board.

### ●Suspending the Enclosure

Before mounting the speaker unit, mount the HY-38S suspension kit to the enclosure. For details, refer to the HY-38S's instruction manual.

When suspending this speaker, make sure to suspend it after investigating structure of installation locations, and confirming that the suspending wires or belts are heavy-duty to this speaker.

### ●Mounting the Horn

When the standard speaker system(GS-302S) is configured, the constant directivity horn LE-M94 is attached to the SB-30S with the horn mounting bracket HY-M94. For details, refer to the HY-M94's instruction manual.

### ●Mounting the Dividing Network

When using the HNW-800 dividing network, detach the terminal panel at the back of enclosure and mount the HNW-800 dividing network. For details, refer to the HNW-800's instruction manual.

### ●Installing the Enclosure

If necessary, attach the provided rubber spacer to the four locations at the bottom of the enclosure.

# Standard Speaker System GS-302S

## ●Components Configuration

**SB-30S**:Low-frequency enclosure  
**HLS30S2-8**:Low-frequency speaker unit  
**LE-M94**:Constant directivity horn  
**HFD-220-8**:Compression driver  
**HY-M94**:Horn mounting bracket

### Note

The HNW-800 dividing network is required when driving the speaker system with passive operation.

## ●SAORI Setting

- When driving the speaker system with multi-amplifier operation using SAORI, set the channel divider module for a long delay type (IS-110DL4 and IS-110DL2) as shown in the following diagram. (F1 as low-frequency and F2 as high-frequency)
- Since the level setting value is set to standard values which are used the same type amplifier's output power for each band, it may have to be adjusted according to the location and condition of the area in which it is used.

MF	DCD1	LINK [A]				TLV	0	dB	GTH	S	OFF	dB
		F1		F2								
CFQ	OFF	800	800	OFF							Hz	
SLP	12L	24S	12W	12L							dB	
LEV	0.00		-8.00									
POL	N		N								ms	
DLY		0.542		0.000								
HEQ	0dB		TYPE 8									

### Note

**CFQ**:Crossover frequency of each filter  
**SLP**:Slope characteristics of each filter  
 24S:24dB/oct Bessel  
 12W:12dB/oct Butterworth  
**LEV**:Output level of each band  
**POL**:Polarity of each band  
**DLY**:Delay value of each band  
**HEQ**:Horn equalizer

## ●Suspending the GS-302S

When suspending the GS-302S, make sure to suspend the constant directivity horn to upper direction using the optional HY-38S suspension kit as shown in the figure.

Never suspend it to lower or horizontal direction.

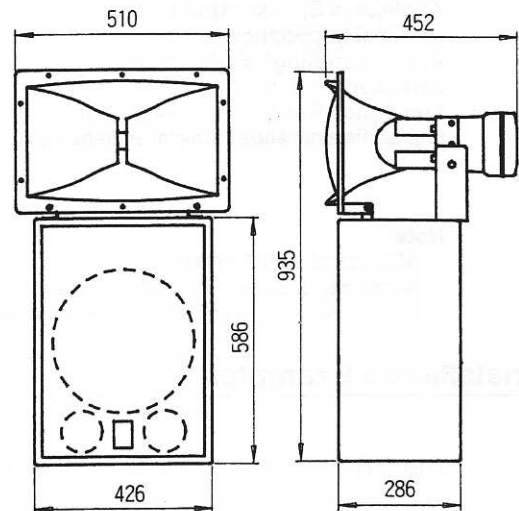
For mounting the HY-38S to the enclosure, refer to its instruction manual.

### Caution

When suspending this speaker, make sure to suspend it after investigating structure of installation locations, and confirming that the suspending wires or belts are heavy-duty to this speaker.

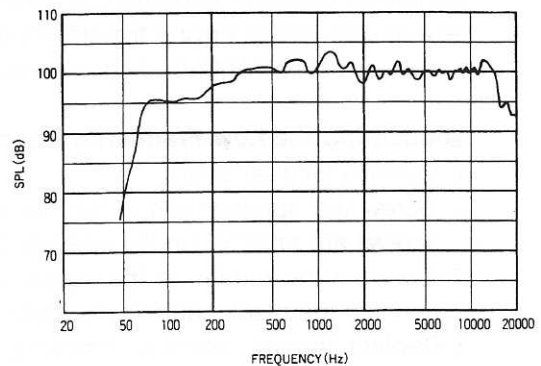
TOA takes no responsibility for any accidents or injuries caused by faulty mounting methods or poorly selected mounting locations.

## ●Appearance

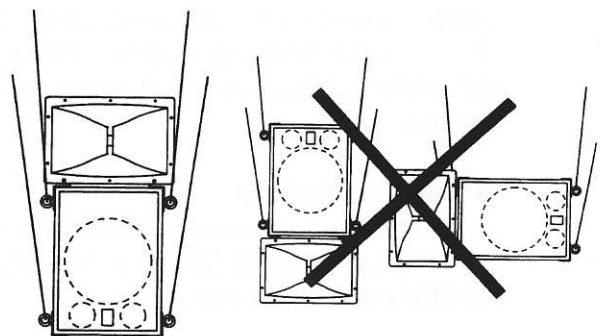


Total Weight:36 kg

## ●Frequency Response(Multi-Amplifier Drive Using the SAORI)



Measured at 1 watt (at 200Hz) and 2 meters.  
 SPL shows the converted level into 1W/1m.



Make sure to suspend the constant directivity horn to upper direction.  
 Never suspend it to lower or horizontal direction.



TOA Corporation

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