

TOA SPEAKER COMPONENT

HLS-3806-8/16

38cm WOOFER



DESCRIPTION

TOA's HLS-3806, in 8 ohms and 16 ohms versions, is a 38cm (15") low-frequency loudspeaker designed for high quality professional sound systems where high efficiency, wide range, and faithful sound reproduction are required, such as in studios, theaters, concert halls, auditoriums, churches, night clubs, etc.

The loudspeaker has a uniform frequency response from 23 Hz to 2,000 Hz. For smooth overall response, it should be used with less than 1,000 Hz crossover frequency.

This loudspeaker employs a low-mass 72mm (2.83") diameter voice coil of edge-wound copper ribbon on an aluminum coil form, which operates in a magnetic gap having a flux density of 16,000 gauss. The voice coil is powered by a 3kg (6.6 lbs.) ferrite magnet which is supported by a rugged diecast aluminum frame.

Its cone suspension is of exceptionally high-compliance cloth surround, damped.

FEATURES

1. Smooth frequency response
2. High power handling capacity: 80 watts continuous pink noise (test duration: 24 hours)
3. High efficiency/high linearity
4. Low distortion
5. Voice coil of edge-wound copper ribbon, aluminum coil form
6. Powerful ferrite magnet
7. Rigid diecast aluminum construction



TOA ELECTRIC CO., LTD.

KOBE, JAPAN

SPECIFICATIONS

POWER HANDLING CAPACITY	
Continuous Pink Noise	80 watts RMS, band-limited pink noise (50—1,000 Hz)
Continuous Program	240 watts
Instantaneous Peak	800 watts
NOMINAL IMPEDANCE	
	8 ohms (HLS-3806-8) 16 ohms (HLS-3806-16)
FREQUENCY RESPONSE*	
	23—2,000 Hz
PRESSURE SENSITIVITY*	
	98dB SPL with 1-watt band-limited pink noise (100—1,000 Hz) at 1 meter on axis
HIGHEST RECOMMENDED CROSSOVER FREQUENCY	
	1,000 Hz
THIELE-SMALL PARAMETERS	
Free-Air Resonance (fs)	22.6 Hz
Equivalent Volume Compliance (VAS)	0.629 m ³ (22.2 ft ³)
Total Q (QTS)	0.12
Electrical Q (QES)	0.13
Mechanical Q (QMS)	1.9
Reference Efficiency (η ₀)	5.4%
D.C. RESISTANCE (RE)	
	6.3 ohms (HLS-3806-8) 11.4 ohms (HLS-3806-16)
EFFECTIVE SURFACE AREA OF DRIVER DIAPHRAGM (S _D)	
	0.0866 m ² (134.2 in ²)

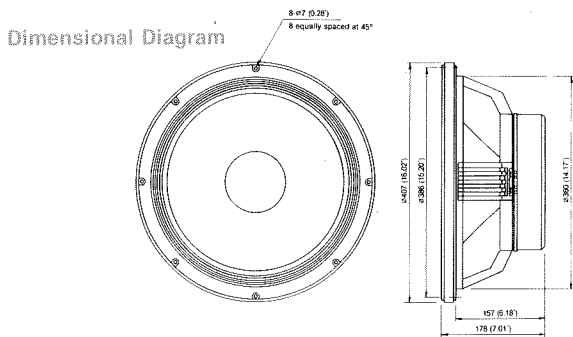
ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The low-frequency loudspeaker shall be TOA Models HLS-3806-8 (8 ohms version), HLS-3806-16 (16 ohms version) drivers or an approved equivalent.

The loudspeaker shall be 407mm (16.02") in diameter by 178mm (7.01") deep, shall weigh 12kg (26.46 lbs.), and shall have a rugged diecast aluminum frame that shall permit front or rear mounting.

The loudspeaker shall be capable of handling a power rating of 80W pink noise, band-limited from 50 Hz to 1,000 Hz, and frequency response shall be uniform across the range of 23 Hz to 2,000 Hz when mounted in a suitable enclosure. The pressure sensitivity shall be at least 98dB SPL, when measured at a distance of 1-meter on axis from the front edge of a 120ℓ sealed enclosure with 1-watt input pink noise, band-limited from 100 Hz to 1,000 Hz. The voice coil impedance shall be 8 ohms (HLS-3806-8), or 16 ohms (HLS-3806-16), and the nominal free-air resonance shall be 23 Hz.

The voice coil shall be a low-mass, 72mm (2.83") diameter edge-wound copper ribbon on an aluminum coil form, and shall operate in a magnet gap having a flux density of 16,000 gauss. The ferrite magnet shall be 3kg (6.6 lbs.). The cone surround shall be of high compliance cloth surround, damped.



CONSTRUCTION

Voice Coil	72mm (2.83") dia. edge-wound copper ribbon, aluminum coil form
Magnet	3kg (6.6 lbs.) Ferrite, flux density: 16,000 gauss
Frame	Diecast aluminum
Cone	Molded fiber
Cone Suspension	High compliance cloth surround, damped
Dimensions	407mm (16.02") dia. 178mm (7.01") depth
Weight	12kg (26.46 lbs.)

MOUNTING DATA

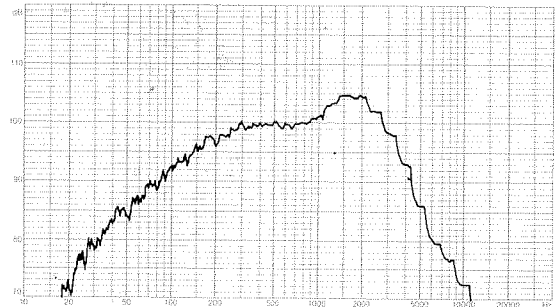
Baffle Opening	350mm (13.78") dia. for rear mounting 365mm (14.37") dia. for front mounting
Mounting Bolt Centers	8 holes (for 6mm dia. screw) equally spaced on 386mm (15.2") dia. circle
Finish	Black matte

Note:

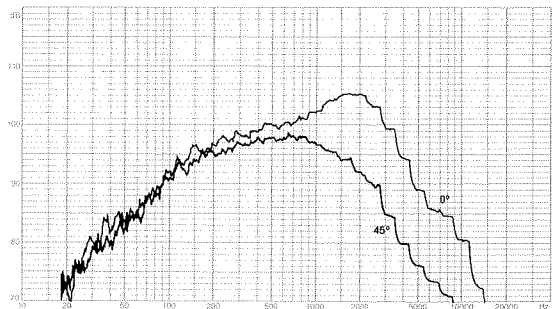
1. Measurement conditions:
* 120ℓ sealed enclosure
2. Duration of power handling test is 24 hours.
3. Positive voltage on plus (+) terminal gives forward diaphragm motion.

Specifications are subject to change without notice.

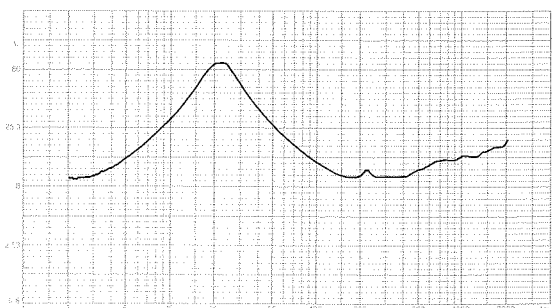
Frequency Response



Directional Frequency Response



Impedance



TOA ELECTRIC CO., LTD.

KOBE, JAPAN

Printed in Japan 833-64-806-80