

ZaphAudio ZA14W08 Midwoofer

GENERAL

Model No	ZA14W08
Frame OD	138 mm
Frame ID	114 mm
Frame thk	4.5 mm
Mounting depth	66 mm
Nominal Impedance	8 ohms
Thermal power handling	60 W continuous
Free air resonance	65 ± 10 Hz
Sensitivity	87 ± 2 dB/W/M, 2.83 V
Weight	1100 grams

CONE

Cone material	Aluminum
Surround material	Rubber

VOICE COIL

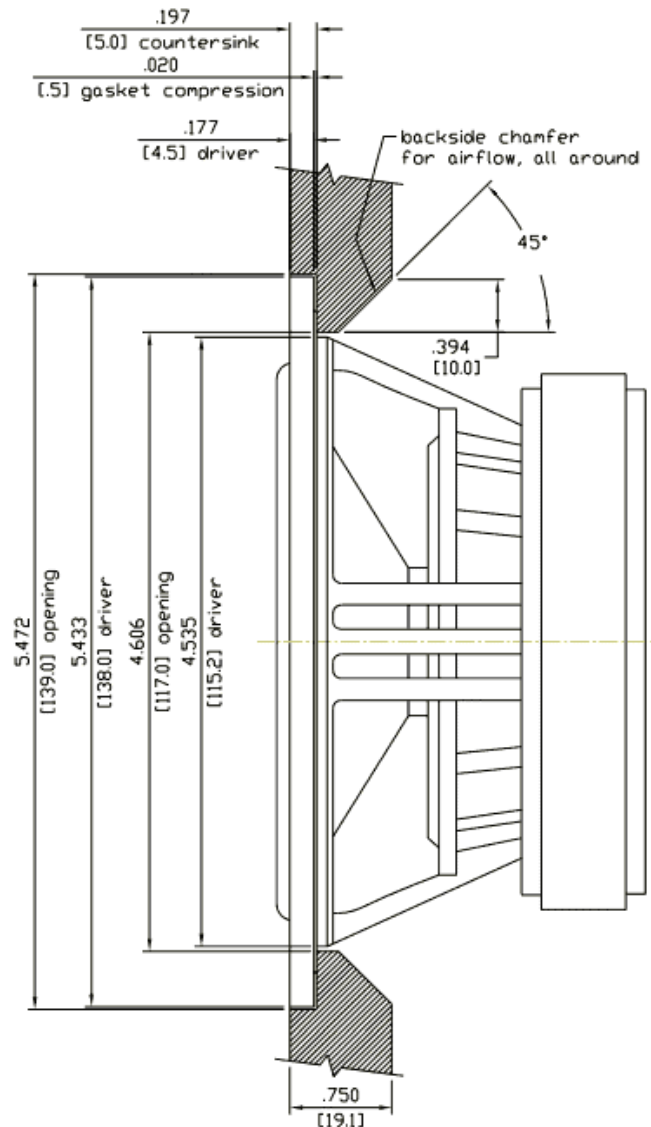
Diameter	25.4 (mm)
Length	10.5 (mm)
Layers	2
Former material	Aluminum
Wire material	Copper

MAGNET

Diameter	100 (mm)
Height	15 (mm)
Weight	442 (g)
Gap(H)	4 (mm)

PARAMETERS

DC resistance	Re:	7.1 (ohms)
Resonance frequency	Fs:	65.835 (Hz)
Maximum impedance	Zm:	32 (ohms)
Mechanical Q factor	Qms:	2.1318
Electrical Q factor	Qes:	0.5584
Total Q factor	Qts:	0.4425
Equivalent volume	Vas:	5.23 (l)
Moving mass	Mms:	7.200 (g)
Sensitivity	SPL:	87 (dB)
BL product	Bl:	6.154
Effective radiating diameter	D:	95 (mm)
Effective radiating area	Sd:	68 (cm ²)
Voice Coil Inductance	Le(1K):	0.37 (mH)
Linear Displacement	Xmax:	3.25 (mm) (one way)



Design Features:

Strategically placed Faraday rings in the motor allow for low non-linear distortion and limited inductance change through the voice coil's range of travel.

A formed aluminum alloy cone provides very flat response within its passband and a breakup node that is high in frequency for extended usable bandwidth.

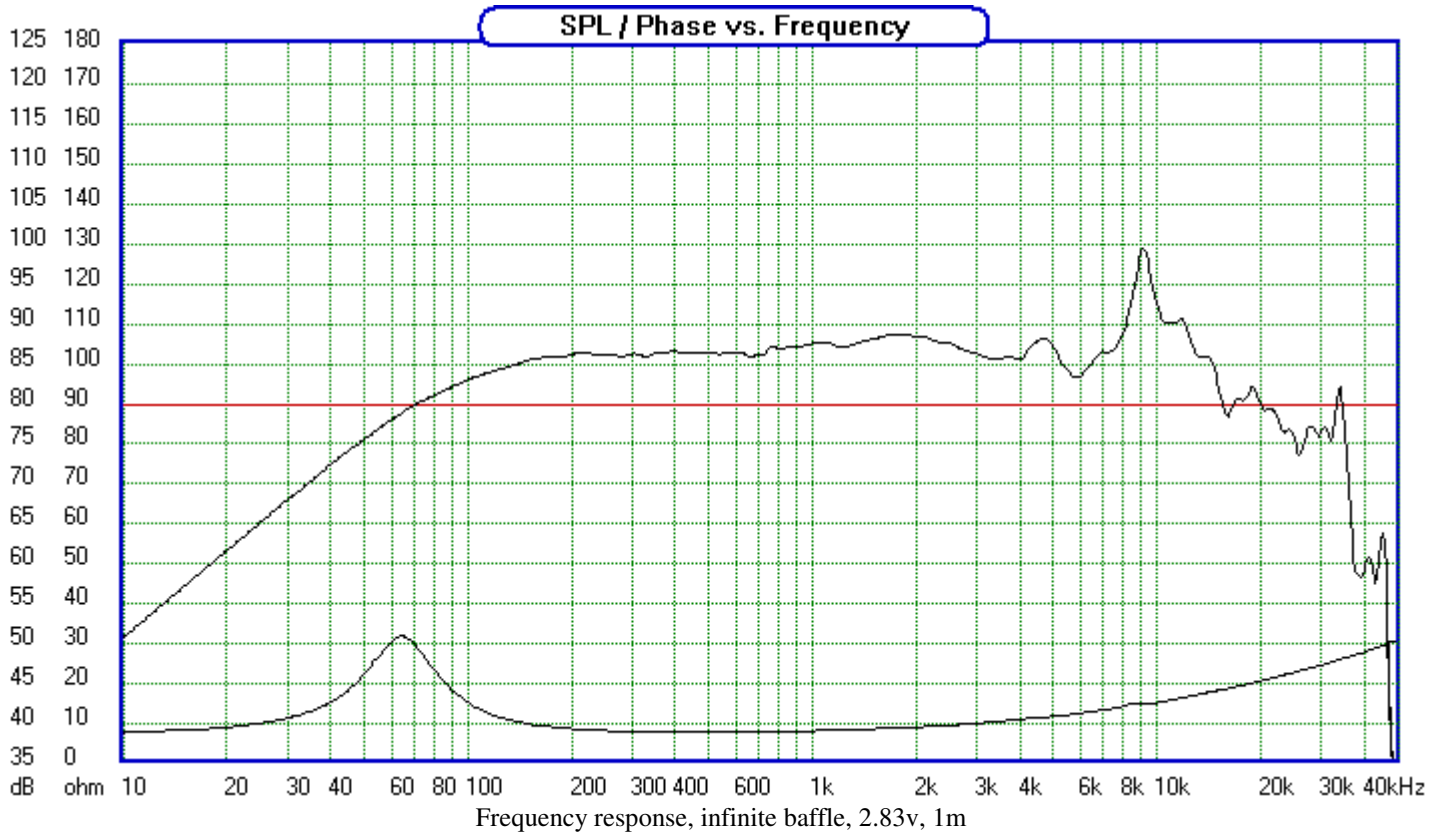
Machined aluminum phase plug eliminates compression and reflection that would normally occur under a dustcap and promotes cooling of the voice coil.

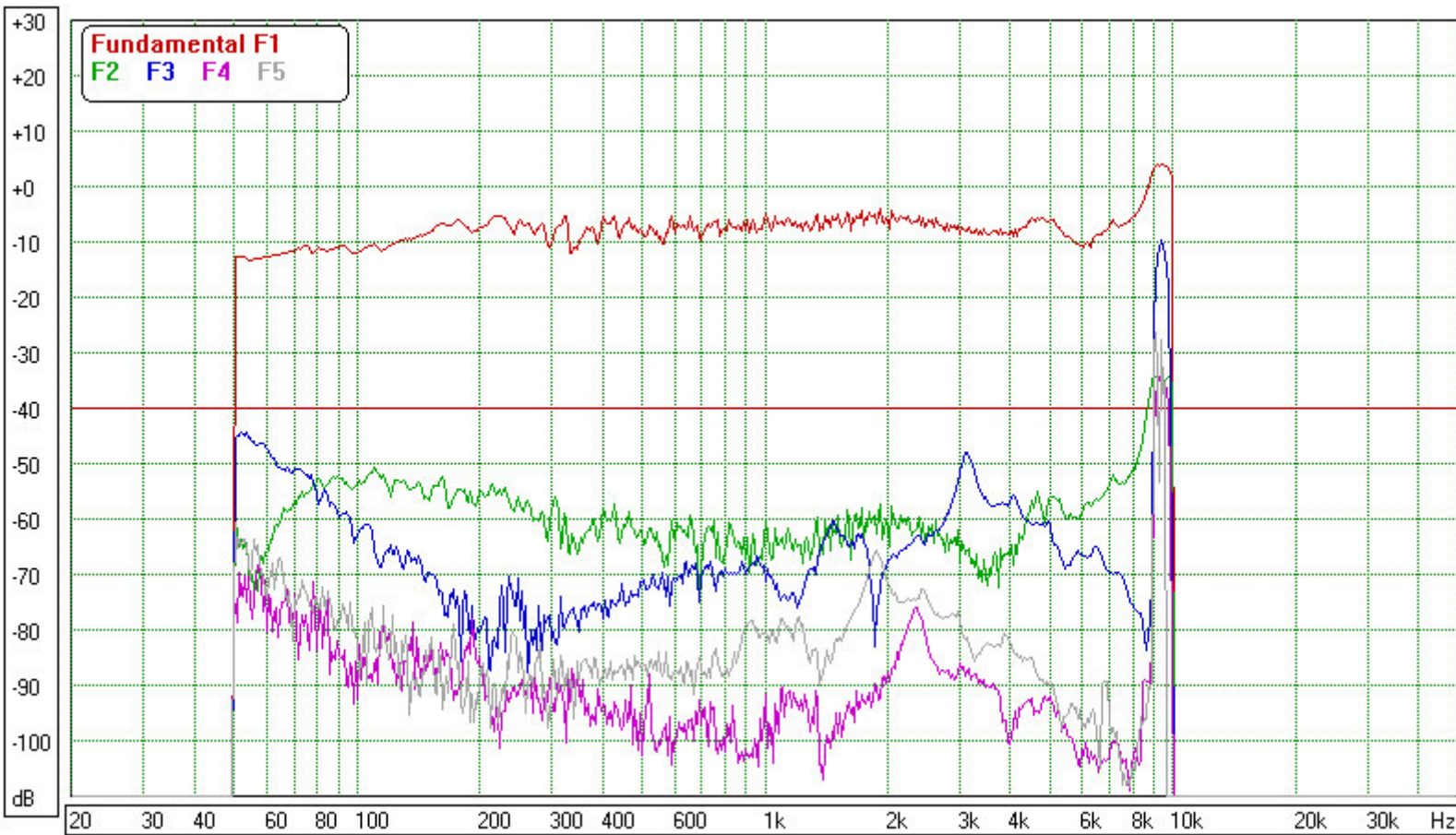
Tinsel leads are mounted to opposite sides of the voice coil former to promote even cone loading.

Rigid cast metal frame of an open design includes ventilation under the raised spider.

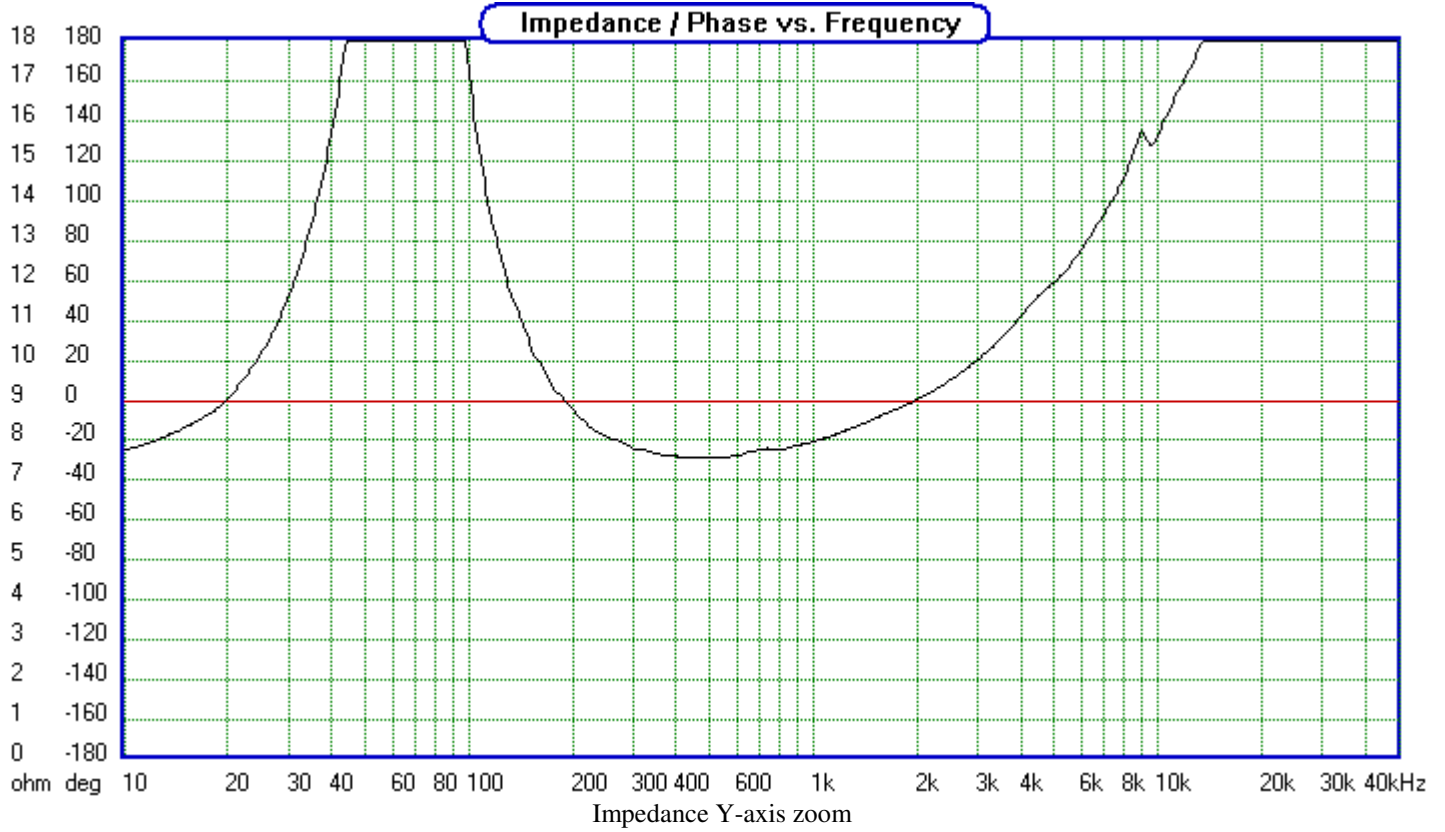
Flat linear spider provides uniform restoring force throughout the voice coil's range of travel.

Integrated gasket for airtight seal and vibration resistance.

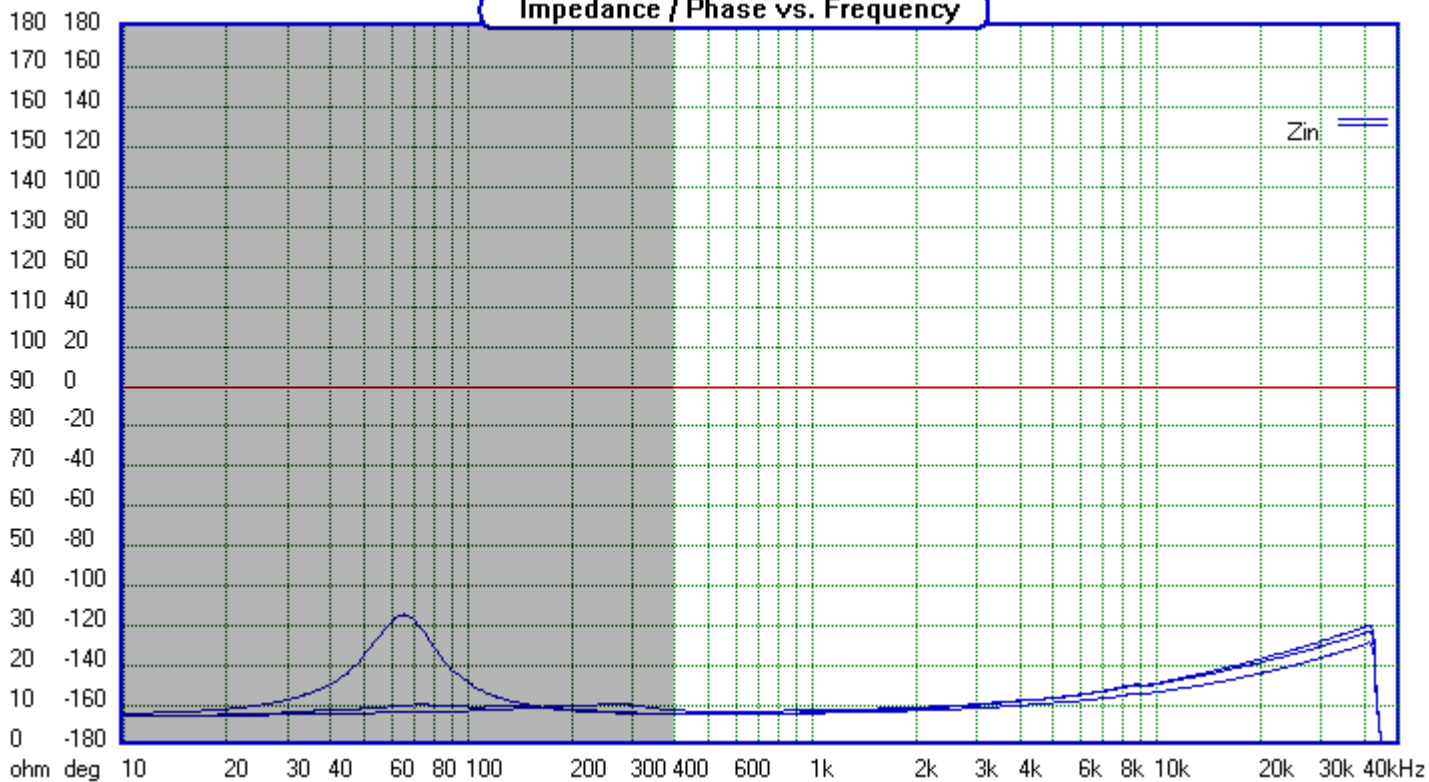




Harmonic distortion, 96dB at 1/2 meter, 2nd thru 5th order

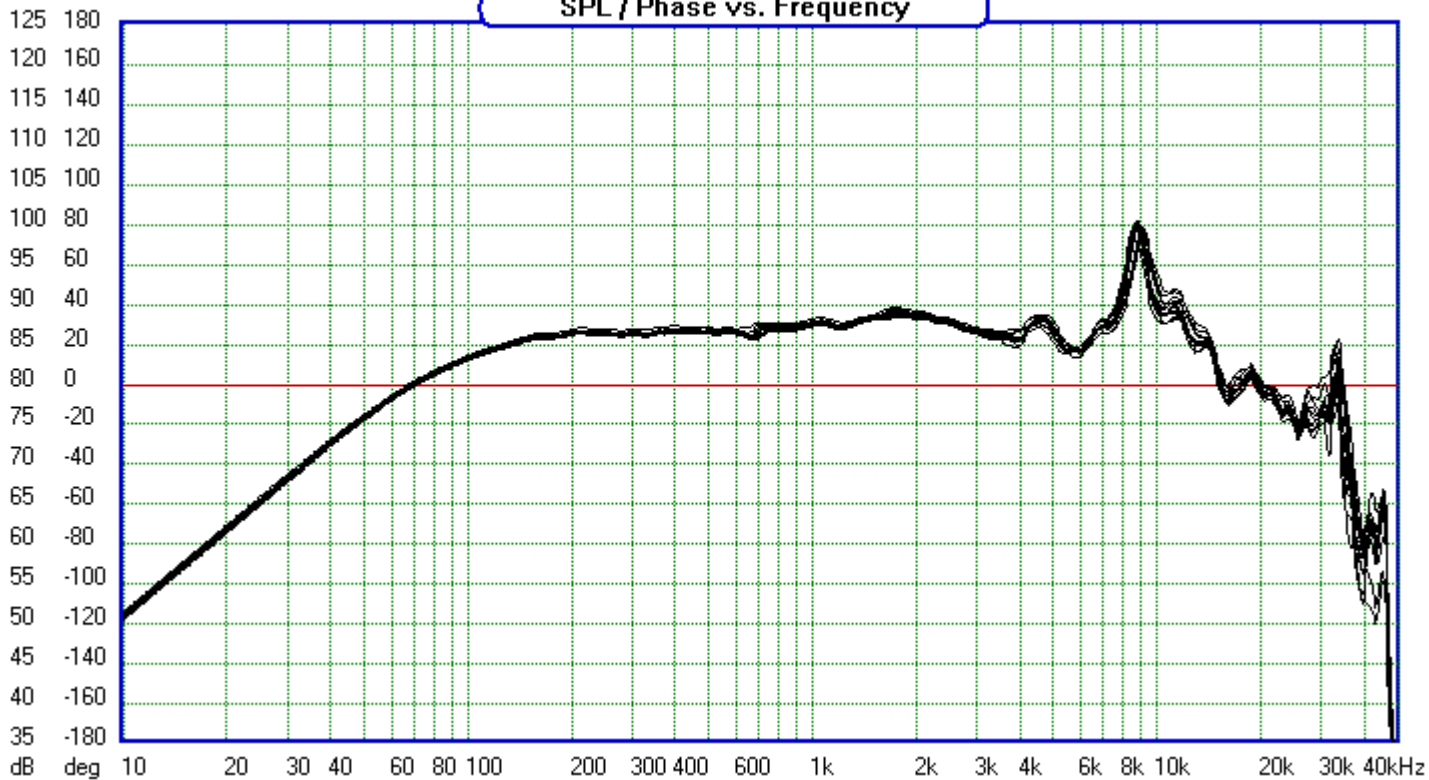


Impedance / Phase vs. Frequency



Le(x) - inductance change with cone clamped at full inward and outward excursion

SPL / Phase vs. Frequency



Frequency response, infinite baffle, 2.83v, 1m, 12 random samples

Measurement conditions:

Frequency response and harmonic distortion are taken on an infinite baffle. The rear of the driver opening has been chamfered for airflow. Drivers broken in at full Xmax with 15Hz tone for 10 hours then allowed to fully cool. Vas calculated with delta compliance method for accuracy, with a rigid 4.5 liter enclosure used to generate the delta impedance. Sd was calculated using the diameter of half the surround with the phase plug area subtracted.