

# AERO-38 / AERO-38A

**aero**  
series



## DESCRIPTION

The AERO-38 is a line array module for tri-amplication. The AERO-38A provides the same features in a self-powered version.

Low frequency reproduction is handled by two separately wired 12" cone loudspeakers with 4" coils. Mid frequency reproduction is handled by two 10" cone loudspeakers with 3" coils. Both the low and high frequency speakers feature a conjugation of side slot and direct voice coil cooling schemes for low power compression.

The transducer handling high frequency reproduction is the ND-10 driver with 1.5" exit and a 4" titanium diaphragm. The driver is coupled to a Serpis cast aluminium wave adapter which provides plane wave performance and additional heat sinking for the driver, and is followed by a horn.

All transducers use Neodymium magnets.

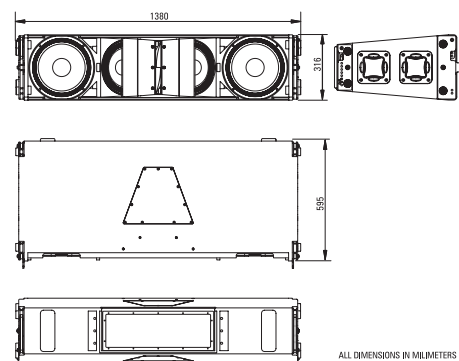
The AERO-38A system additionally incorporates a 1000W class D switching amplifier for the low-frequency section and two 500W class D amplifiers for the mid and high frequency sections.

The AERO-38 can be converted to AERO-38A by simply replacing the connector panel with the amplifier module.

The trapezoidal enclosure is manufactured from Wisa® plywood and is finished with a polyurethane paint that provides protection against the elements and abrasion.

The unit has a fabric covered steel grille to protect the loudspeaker components. The fabric covering is resistant to wear and tear, provides protection from dust and dirt, and is both acoustically transparent and flame retardant.

Compatible with AERO-48 and subwoofer AERO-182/182A, flying hardware is integral to the box and provides for splay angles from 0 to 10 degrees in 2.5 degree increments, hinge points being located on the front for seamless arraying.



ALL DIMENSIONS IN MILLIMETERS

## FEATURES

- » 3-way line array module
- » Externally powered and self-powered versions
- » All Neodymium transducers
- » Integrated rigging system

## SPECIFICATIONS

### AERO-38/AERO-38A

Nominal On-axis Acoustical Frequency Range:	45 Hz - 18 kHz
Rated Maximum Peak SPL at 1m:	LF: 135 dB SPL, MF: 137 dB SPL, HF: 139 dB SPL
Enclosure Material and Finish:	Wisa® Plywood, Black Polyurethane
Transducers/Replacement Parts:	LF: 12GNC/GM 12G MF: 10LMN16/GM 10LMN16 HF: ND-10/GM K-8
Dimensions (H x W x D):	31.6 x 140 x 60 cm (12.5 x 55 x 23.5 in)
Accessories:	PL-38 dolly panel (included)

### AERO-38

RMS (Average) Power Handling:	2x600 W/600 W/200W (LF/MF/HF)
Program Power Handling <sup>1</sup> :	2x1200 W/1200 W/400W (LF/MF/HF)
Peak Power Handling <sup>2</sup> :	2x2400 W/2400 W/800W (LF/MF/HF)
Nominal Impedance:	LF: 2x8 Ω, MF: 8 Ω, HF: 16 Ω
Minimum Impedance:	LF: 4.7Ω(49Hz), MF: 6.6Ω(260Hz), HF: 9.6Ω(950Hz)
Nominal On-axis Sensitivity 1W / 1 m:	LF: 98 dB SPL, MF: 103 dB SPL, HF: 110 dB SPL
HF Horn Coverage Angles <sup>3</sup> :	Horizontal: 90°, Vertical: Splay angle dependent
Average Beamwidths <sup>4</sup> :	Horizontal: 85°, Vertical: Splay angle dependent
Speech Coverage Angles <sup>5</sup> :	Horizontal: 90°, Vertical: Splay angle dependent
Input Connection:	2 x NL8 Speakon, wired to ±1 LF1 ±2 LF2 MF ±3 HF ±4 LF
Weight:	70 kg (154 lbs)

### AERO-38A

Nominal Low Frequency Amplifier Power:	1000W
Nominal Mid Frequency Amplifier Power:	500W
Nominal High Frequency Amplifier Power:	500W
Input Type:	Balanced Differential
Sensitivity:	1.2V (+4 dBu)
Input Impedance:	20 kΩ
Connectors:	INPUT: Female XLR, LOOP THRU: Male XLR AC INPUT, AC LOOP THRU: PowerCon NAC 3
Weight:	80 kg (176 lbs)

<sup>P</sup> Conventionally 3 dB higher than the RMS measure, although this already utilizes a program signal.

<sup>K</sup> Corresponds to the signal crests.

<sup>I</sup> In practice cable and connector impedance has to be added to all impedance values. The minimum impedance for the LF section corresponds to 2 drivers connected in parallel.

<sup>HF</sup> -6 dB angle. <sup>B</sup> -6 dB angle, average of one-third octave band measures.

<sup>C</sup> There is currently no standard method of averaging the beamwidth with frequency characteristics into a single meaningful figure, which impedes comparisons across manufacturers and very often even product lines. This, our own, criterion weighs the -6 dB coverage angles from one-octave bands according to their contribution to speech intelligibility.

One and one-third octave bands comply to ANSI S1.11-1986.

## IMPEDANCE

Figure 1 shows impedance with frequency for the AERO-38's low (solid black), mid (dotted) and high (grey) frequency sections. (Two speakers in parallel are used for the low frequency section)

## DISTORTION

Figure 2 shows the Second Harmonic Distortion (grey) and Third Harmonic Distortion (dotted) curves for a unit driven at 10% of its nominal power handling rating.

## AXIAL DIRECTIVITY $Q(R_0)$ AND DI

Figure 3 shows the above characteristics with frequency for a single box. Thin continuous and dashed lines show partial horizontal and vertical, respectively, characteristics.

## BEAMWIDTH

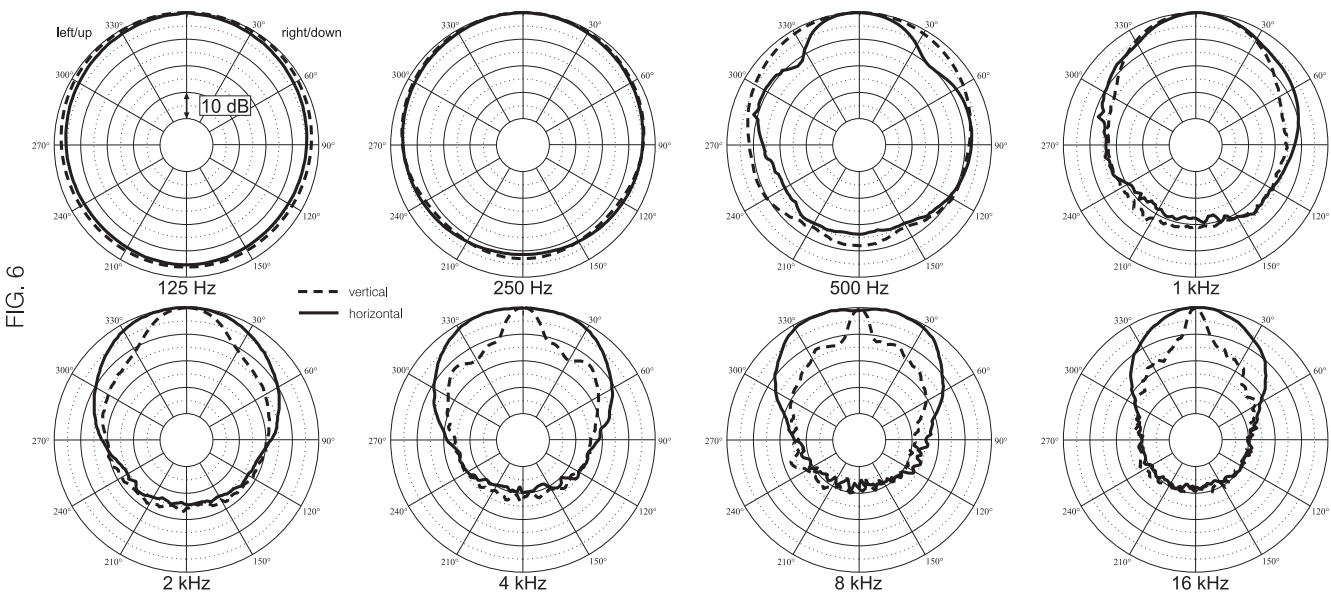
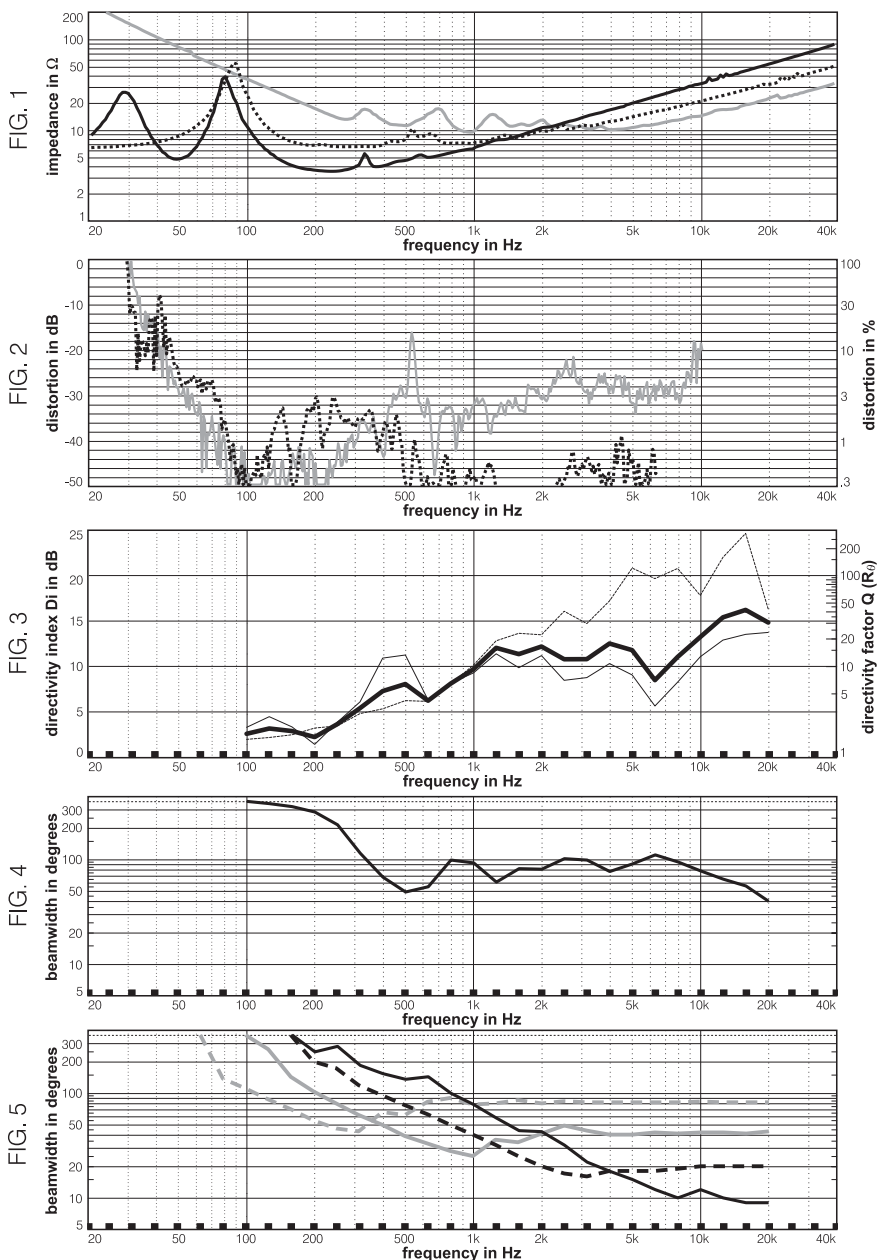
Figure 4 shows -6 horizontal beamwidth with frequency curves for a single box.

Figure 5 shows -6 vertical beamwidth with frequency curves for a single box (solid black) as well as arrays of 2 (dashed black), 4 (grey) and 8 (dashed grey) units with a splay angle of 10 degrees.

## POLAR RESPONSE

Figure 6 shows the one octave band horizontal (solid) and vertical (dashed) single box polars for the indicated frequencies. Full scale is 50 dB, 5 dB per division.

NOTES: In practice, cable and connector impedance need to be added. Harmonic distortion components are not plotted beyond 20 kHz; near-field techniques used. All positive gain equalisation was disabled for distortion measurements. Directivity characteristics plotted with respect to frequency are the average within the one-third octave bands of center frequencies noted by the marks at the bottom of the graphs, but are joined up for display purposes. All other characteristics plotted vs. frequency use 1/24th octave resolution. Beamwidths applicable to 60 metre distance. Vertical coverage for arrays is the result of modeling using measurement data. Directivity factor and index were computed from two degree resolution vertical and horizontal polars using sinusoidal weighting. Product improvement through research and development is a continuous process at D.A.S. Audio. All specifications subject to change without notice.



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