10B

Mid Frequency Transducer

B SERIES

DESCRIPTION

The D.A.S. 10B is a high efficiency 10" diameter cone loudspeaker with 4" diameter voice coil.

It features centre pole piece convection cooling to provide high power handling and low power compression.

Exclusive curing techniques are utilized to create an indestructible bond between the copper voice coil and its fibre-glass based support.

The computer designed injected aluminium basket supplies rigidity and mechanical grounding.

APPLICATIONS

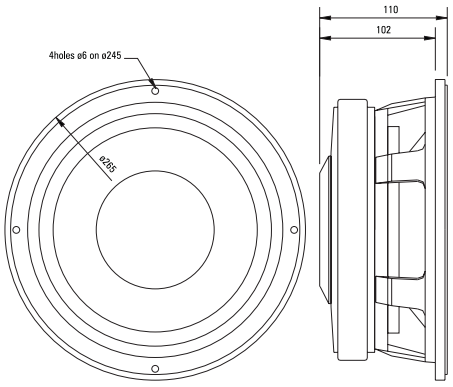
Mid range. Suitable for high-power systems and mid-high boxes.

FEATURES

- » Mid frequency 10" cone loudspeaker
- » 800 W program power handling
- » 4" voice coil
- » Ceramic magnetic structure
- » Centre pole piece convection cooling

SPECIFICATIONS

AES RMS (Average) Power Handling[R]:	400 W
Program Power Handling[P]:	800 W
Peak Power Handling[K]:	1600 W
Sensitivity:	98 dB SPL, 1W/1m
Nominal Impedance:	8 Ω
Nominal Frequency Range:	60 Hz - 5 kHz
Voice Coil:	Al, edgewound
Voice Coil Diameter:	102 mm (4 in)
Cooling:	Pole piece convection
Frame:	Cast aluminium
Spider:	Single
Diaphragm:	Curved
Magnetics:	Anisotropic Barium Ferrite
Flux Density:	11.3 T
Input Connection:	Push terminals, 4 mm diameter
Polarity:	Positive voltage to red terminal moves diaphragm forward
Recommended Baffle Cutout Diameter:	2.36 mm
Weight:	9.4 kg (20 .7 lbs)
Shipping Weight:	10.1 kg (22.1 lbs)



ALL DIMENSIONS IN MILIMETERS

[R] Based on a 2 hour test continuously applying 6 dB crest factor pink noise bandlimited to 50-500 Hz.
[P] Conventionally 3 dB higher than the average measure.
[K] Corresponds to the signal crests for the test described in [R].

D.A.S. Speakers

Frequency Response
Figure 1 shows the on-axis (black) and 45-degree (grey) frequency response at 1 m of a unit flush on a measurement baffle and radiating to an anechoic environment and driven by a 2.83 V swept sine signal.

Impedance
Figure 2 shows impedance with frequency of a unit suspended in free air.

Distortion
Figure 3 shows the Second Harmonic Distortion (grey) and Third Harmonic Distortion (dotted) curves for unit mounted on the measurement baffle and driven at 10% of its power handling.

NOTES. 1.Frequency response: referred to 1 m; low-end obtained through the use of near field techniques; the large measurement baffle provides results akin to mounting the speaker in a diffraction free closed box with internal volume of 320 litres or larger. 2.In practice, cable and connector impedance need to be added. 3.Harmonic distortion components are not plotted beyond 20 kHz.

Product improvement through research and development is a continuous process at D.A.S. Audio. All specifications subject to change without notice.

FIG. 1

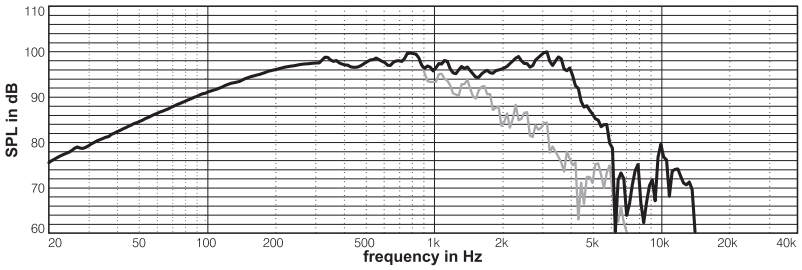


FIG. 2

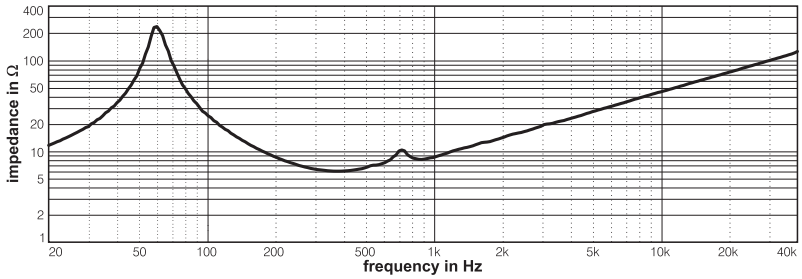
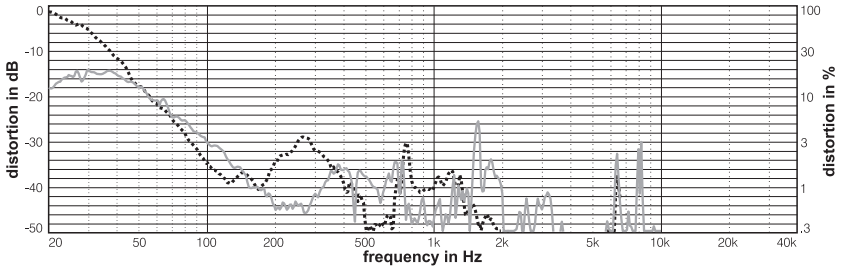


FIG. 3



Thiele-Small Parameters

Small-Signal

F_s: 59 Hz
Q_{ts}: 0.186
Q_{es}: 0.190
Q_{ms}: 8.147
η_o: 2.88 %
V_{as}: 28 litres
R_e: 5.5 Ω
S_D: 0.036 m^2
(Preconditioning : 1 hour, AES power test at -3dB rated power)

Large-Signal

X_{max}: 4 mm (0-pk)[XM]
V_D: 0.144 dm^3 (0-pk)

[XM] Calculated as $(H_{vc}-H_{ag})/2+H_{ag}/4$

ADDITIONAL DATA

Effective piston diameter: 214 mm
M_{ms}: 49 gr
C_{ms}: 150 µm/N
Voice coil diameter: 102 mm
Voice coil winding depth, H_{vc}: 12 mm
Voice coil length: 23.7 m
Top plate thickness at voice coil, H_{ag}: 8 mm
Displacement limit: 20 mm (pk-pk)
Minimum impedance: 6.1 Ω at 367 Hz
BL: 22.8 T.m
Spider suspension: polycotton
Surround suspension: polycotton
Voice coil support: GFRP (glass fibre reinforced polymer)

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