

# 12MB1000

## High Output Midbass Transducer

### Key Features

- 102 dB SPL 1W / 1m average sensitivity
- 100 mm (4 in) high temperature voice coil
- 600 W AES power handling
- Excellent transient response
- Very low power compression
- Improved heat dissipation via unique basket design
- Ideal for direct radiating or horn loaded midrange systems



### General Description

The 12MB1000 is a very high performance 12" ferrite midrange driver. It offers high power handling capability with exceptional sensitivity over the middle frequency band. It can be used with either direct radiating or horn loaded applications, as well as part of a 2 or 3-way system. It is ideally used in stage monitor, auditorium, touring and outdoor systems.

The 12MB1000 is the result of an intensive development program which aimed to produce the best 12" midrange driver possible.

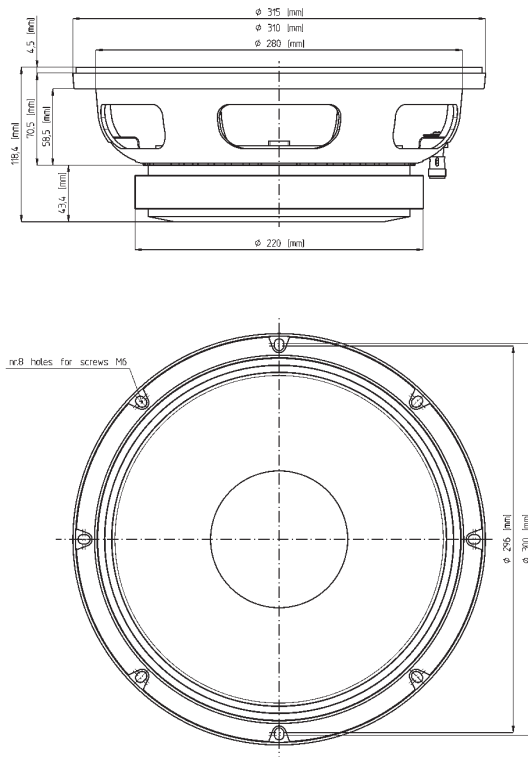
The smooth curvilinear paper cone has a special high strength wood pulp composition designed to achieve the best possible linearity within the middle frequency range and to control bell-mode resonances around the cone. The cone is carried by a double half-roll suspension, which is more resistant to aging and fatigue than traditional materials, and provides the correct dampening and excursion control.

The state-of-the-art voice coil employs our own Interleaved Sandwich Voice coil (ISV) technology, in which a high strength fiberglass former carries windings on both the outer and inner surfaces. By mean of a balanced coil with uniform distribution of mass and motive energy, this technology assures an extremely linear motor assembly.

The voice coil cooling has been achieved by incorporating airways between the chassis back plate and the top plate of the magnet which allow heated air from the voice coil and gap to be channeled away and dissipated by the chassis basket. This technology is the result of a meticulous design exercise using a sophisticated in-house 3D CAD facility. The magnetic structure has also been optimized using our in-house FEA CAD resource to maximize flux density in the voice coil gap.

Eighteen Sound R&D has developed a special cone treatment designed to improve the dampening properties of the moving assembly, thus considerably improving the transient response control. This treatment also gives water repellent properties to the cone, enabling the 12MB1000 to be used in humid environments without damage.

0221285110 8 Ohm



FERRITE LF-MB-MF TRANSDUCERS

# 12MB1000

High Output Midbass Transducer

## GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300 mm (12 in)
RATED IMPEDANCE	8 Ohm
AES POWER	600 W
PROGRAM POWER (1)	800 W
PEAK POWER (2)	1600 W
SENSITIVITY (3)	102 dB
FREQUENCY RANGE (4)	80 ÷ 3500 Hz
POWER COMPRESSION @-10DB (5)	0,5 dB
POWER COMPRESSION @-3DB	1,5 dB
POWER COMPRESSION @FULL POWER	2,1 dB
MAX RECOMM. FREQUENCY	2500 Hz
RECOMM. ENCLOSURE VOLUME	8 ÷ 60 lt. (0,28 ÷ 2,12 cuft)
MINIMUM IMPEDANCE	7,2 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	20 mm (0,79 in)
VOICE COIL DIAMETER	100 mm (3,95 in)
VOICE COIL WINDING MATERIAL	copper
SUSPENSION	M-roll, Polycotton
CONE	Curvilinear, Treated paper

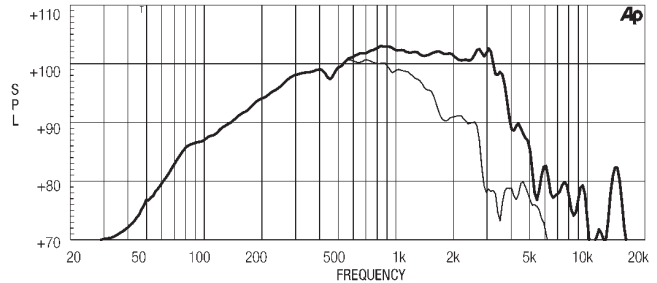
## THIELE SMALL PARAMETERS (6)

Fs	54 Hz
Re	5,8 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	6
Qes	0,2
Qts	0,18
Vas	60 lt. (2,12 cuft)
Mms	55,5 gr. (0,12 lb)
BL	23,5 Tm
Linear Mathematical Xmax (7)	± 2,5mm (±0,10 in)
Le (1kHz)	1,46 mH
Ref. Efficiency 1W@1m (half space)	99 dB

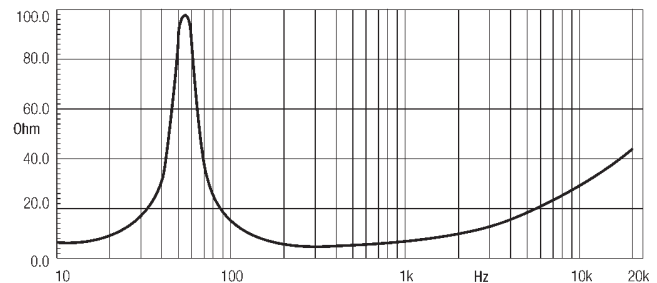
## MOUNTING INFORMATION

Overall diameter	315 mm (12,4 in)
N. of mounting holes	8
Mounting holes diameter	7,15 mm (0,28 in)
Bolt circle diameter	296 - 300 mm (11,65 - 11,8 in)
Front mount baffle cutout ø	282 mm (11,1 in)
Rear mount baffle cutout ø	282 mm (11,1 in)
Total depth	118,4 mm (4,66 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	9,6 kg (21,19 lb)
Shipping weight	10,3 kg (22,74 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE OF 12MB1000 MADE ON 50 LIT. CLOSED BOX ENCLOSURE IN FREE FIELD (4PI) ENVIRONMENT. ENCLOSURE CLOSES THE REAR OF THE DRIVER. THE THIN LINE REPRESENTS 45 DEG. OFF AXIS FREQUENCY RESPONSE



FREE AIR IMPEDANCE MAGNITUDE CURVE



### NOTES

- (1) Continuous power rating is measured in 50 lit closed box using a 60 - 2000Hz band limited pink noise test signal with 50% duty cycle, applied for 2 hours.
- (2) The peak power rating represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.
- (3) Sensitivity represents the averaged value of acoustic output as measured on the forward central axis of cone, at distance 1m from the baffle panel, when connected to 2,83V sine wave test signal swept between 500Hz and 2500Hz with the test specimen mounted in the same enclosure as given for (1) above.
- (4) Frequency range is given as the band of frequencies delineated by the lower and upper limits where the output level drops by 10 dB below the rated sensitivity in half space environment.
- (5) Power compression represents the loss of sensitivity for the specified power, measured from 50-500 Hz, after a 5 min pink noise preconditioning test at the specified power.
- (6) Thiele - Small parameters are measured after the test specimen has been conditioned by 600 W AES power and represent the expected long term parameters after a short period of use.
- (7) Linear Math. Xmax is calculated as  $(Hvc-Hg)/2 + Hg/4$  where Hvc is the coil depth and Hg is the gap depth.

Eighteen Sound engages in research and product improvement. New materials and design refinements can be introduced into existing products without notice.