12MB700

Very High Output Midbass Ferrite Transducer

Key Features

101,5 dB SPL 1W / 1m average sensitivity

75 mm (3 in) Interleaved Sandwich Voice coil (ISV)

450 W continuous pink noise power handling

Weather protected cone and plates for outdoor usage

Double Demodulating Rings (DDR) for lower distortion and inductance

Ideal for compact two way and multiway systems

Improved heat dissipation via unique basket design

General Description

The 12MB700 is the result of extensive research carried out in our R&D and Engineering Departments which aimed to produce a very high sensitivity (101.5 dB 1W/1m) midbass driver with high power handling capabilities. The 12MB700 can be used as either a bass/mid driver in compact 2-way reflex enclosures or as a direct radiating or horn loaded, dedicated midrange driver, in multi-way touring and fixed installation concert and arena systems.

Its curvilinear paper cone made from a special high strength wood pulp, has been designed to achieve the best possible linearity within its intended frequency range and to control bell-mode resonances around the cone circumference. The cone is carried by a multiroll suspension formed of a linen-like material, which is more resistant to aging and fatigue than traditional materials.

The 75 mm diameter state-of-the-art voice coil is similiar to those fitted to our top-of-the-range 18" and 15" models but it is wound with aluminum wire. It employs our Interleaved Sandwich Voice coil (ISV) technology in which a high strength fiberglas former carries windings on both the outer and inner surfaces to achieve a mass balanced coil. This results in an extremely linear motor assembly with a reduced tendency for eccentric behavior when driven hard.

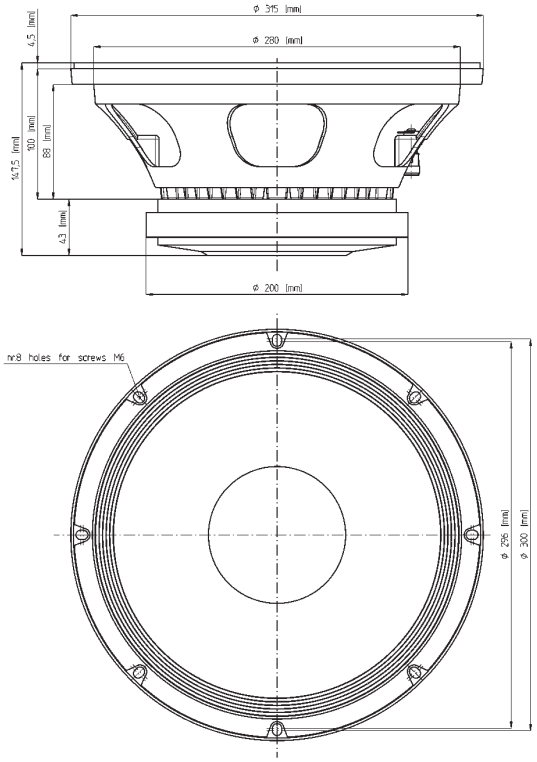
The excellent performance capabilities of this loudspeaker are further enhanced by the Double Demodulating Rings (DDR) designed to dramatically reduce the intermodulation and harmonic distortion and improve transient response.

The magnetic structure has been optimized using our in-house FEACAD resource which has maximized the flux density in the voice coil gap.

Voice coil cooling has been achieved by incorporating airways between the chassis back plate and the top plate of the magnet, allowing heated air from the voice coil and gap to be channeled away and dissipated by the chassis basket. This technology is another result of our sophisticated 3D CAD system.

Due to the increasing use of high power audio systems at outdoor events or in marine environments, the ability to perform properly under inclement weather conditions is a key feature in Eighteen Sound philosophy. Hence, an exclusive treatment has been applied to the cone giving it water repellent properties. In addition, another special treatment has been applied to the top and back plates making the transducer far more resistant to the corrosive effects of salts and oxidization.

0221265220 16 Ohm
0221285220 8 Ohm



FERRITE LF-MB-MF TRANSDUCERS

info@eighteensound.com
www.eighteensound.com

12MB700

Very High Output Midbass Ferrite Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300 mm (12 in)
RATED IMPEDANCE	8 Ohm
CONTINUOUS PINK NOISE (1)	450 W
CONTINUOUS POWER (2)	300 W
PROGRAM POWER (3)	600 W
PEAK POWER (4)	1200 W
SENSITIVITY (5)	101,5 dB
FREQUENCY RANGE (6)	60 ÷ 5000 Hz
POWER COMPRESSION @-10DB (7)	(30 W) 0,4 dB
POWER COMPRESSION @-3DB	(150 W) 1,5 dB
POWER COMPRESSION @FULL POWER	(300 W) 2,8 dB
MAX RECOMM. FREQUENCY	4000 Hz
RECOMM. ENCLOSURE VOLUME	10 ÷ 80 lt. (0,3 ÷ 2,83 cuft)
MINIMUM IMPEDANCE	5,7 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	22 mm (0,87 in)
VOICE COIL DIAMETER	75 mm (2,95 in)
VOICE COIL WINDING MATERIAL	aluminum
POLARITY	positive voltage on red terminal gives forward cone motion

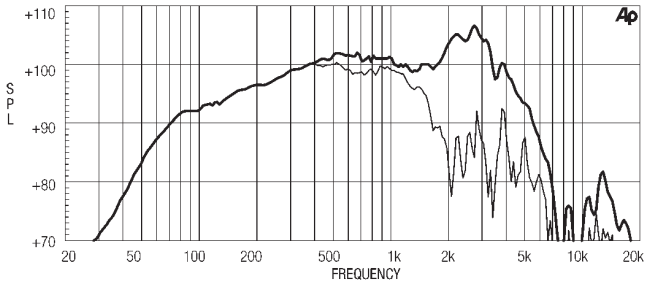
THIELE SMALL PARAMETERS (8)

Fs	49 Hz
Re	5 Ohm
Sd	0,0531 sq.mt. (82,31 sq.in.)
Qms	4,7
Qes	0,2
Qts	0,19
Vas	101 lt. (3,57 cuft)
Mms	41 gr. (0,09 lb)101 lt. (3,57 cuft)
BL	17,8 Tm
Linear Mathematical Xmax (9)	± 4,5 mm (± 0,18 in)
Le (1kHz)	0,9 mH
Ref. Efficiency 1W@1m (half space)	99,6 dB

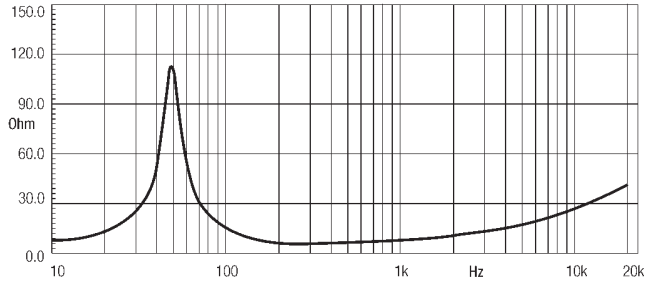
MOUNTING INFORMATIONS

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	147,5 mm (5,82 in)
Flange and gasket thickness	16,5 mm (0,65 in)
Net weight	8,0 kg (17,66 lb)
Shipping weight	8,8 kg (19,43 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE OF 12MB700 MADE ON 50 LIT. ENCLOSURE TUNED 60HZIN 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) AES standard

(2) Continuous power rating is measured in 50 lit enclosure tuned 60Hz using a 60 - 2000Hz band limited pink noise test signal applied continuously for 2 hours.

(3) Program power rating is measured as for 2 above but 50% duty cycle.

(4) The peak power rating is based on a 6dB crest factor above the continuous power rating and represents the maximum permitted instantaneous peak power level over a maximum period of 10ms which will be withstood by the loudspeaker without damage.

(5) 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 2 above.

(6) 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.

(7) 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.

(8) Thiele - Small parameters are measured after the test specimen has been conditioned by 450 W AES power and represent the expected long term parameters after a short period of use.

(9) Linear Mat. Xmax is calculated as; (Hvc-Hg)/2+Hg/4 where Hvc is the coil depth and Hg is the gap depth.