12MB650

High Output Midbass Transducer

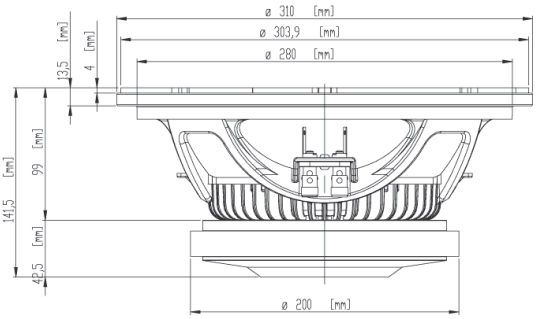
Key Features

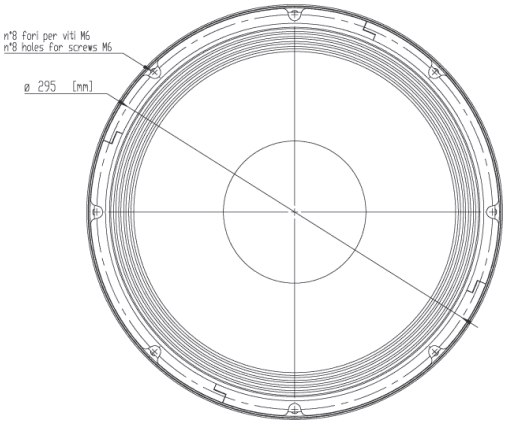
98 dB SPL 1W / 1m sensitivity
65 mm (2.5 in) Edgewound Aluminum Voice coil (EWAL)
800W program power handling
Improved heat dissipation via proprietary basket design
Weather protected cone and plates for outdoor usage
Ideal for high quality two way and stage monitor applications

General Description

The 12MB650 is a high sensitivity midbass driver with 800W program power handling capabilities. The 12MB650 can be used as either a bass/mid driver in compact 2-way reflex enclosures or in high quality stage monitor applications.
Eighteen Sound engineers have obtained the best possible results with today's available materials in terms of clean and undistorted LF reproduction at a ultra high SPL, with the lowest possible power compression figure.
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 triple roll suspension formed of a linen-like material, which is more resistant to aging and fatigue than traditional materials.
The 65 mm (2.5 in) diameter state-of-the-art voice coil is made with edgewound aluminum wire winded over a high strength fiberglas former. This results in an extremely linear motor assembly with a reduced tendency for eccentric behavior when driven hard.
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. Special attention was given to the optimization of air flow into the gap without introducing audible noise. A special low-density material air diffractor placed into the heatsink acts as a cooling system, increasing the power handling capability and lowering the power compression figure.
The magnetic structure has been optimized using FEA CAD resource, maximizing the flux density in the voice coil gap.
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.

0221286500 8 Ohm **0271286500 R-kit 8 Ohm**





FERRITE LF-MB-MF TRANSDUCERS

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High Output Midbass Transducer

GENERAL SPECIFICATIONS

NOMINAL DIAMETER	300 mm (12 in)
RATED IMPEDANCE	8 Ohm
AES POWER (1)	400 W
PROGRAM POWER (2)	800 W
PEAK POWER (3)	1600 W
SENSITIVITY (4)	98 dB
FREQUENCY RANGE (5)	45 ÷ 5000 Hz
POWER COMPRESSION @-10DB (6)	0,7 dB
POWER COMPRESSION @-3DB	1,5 dB
POWER COMPRESSION @FULL POWER	2,2 dB
MAX RECOMM. FREQUENCY	2000 Hz
RECOMM. ENCLOSURE VOLUME	70 ÷ 150 lt. (2.47 ÷ 5.30 cuft)
MINIMUM IMPEDANCE	7,2 Ohm at 25°C
MAX PEAK TO PEAK EXCURSION	24 mm (0,95 in)
VOICE COIL DIAMETER	65 mm (2.5 in)
VOICE COIL WINDING MATERIAL	aluminum
SUSPENSION	Triple-roll, Polycotton
CONE	Curvilinear, Treated paper

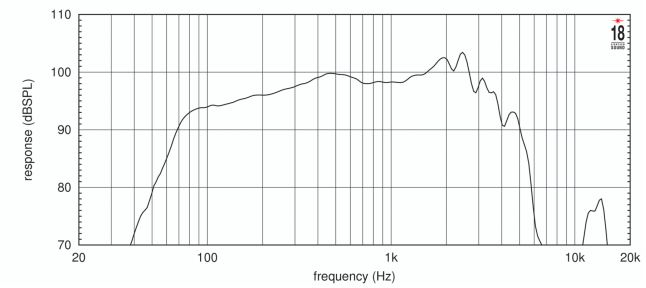
THIELE SMALL PARAMETERS (7)

Fs	48 Hz
Re	6,0 Ohm
Sd	0,053 sq.mt. (82,15 sq.in.)
Qms	3,2
Qes	0,24
Qts	0,23
Vas	90 lt. (3.18 cuft)
Mms	48 gr. (0.11 lb)
BL	19 Tm
Linear Mathematical Xmax (8)	± 5,5 mm (± 0.22 in)
Le (1kHz)	0,83 mH
Ref. Efficiency 1W@1m (half space)	98,1 dB

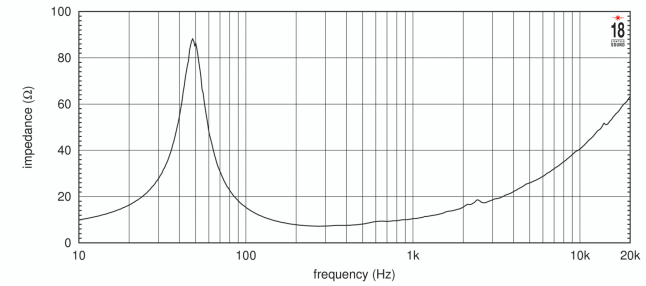
MOUNTING INFORMATIONS

Overall diameter	310 mm (12,2 in)
N. of mounting holes	8
Mounting holes diameter	5,9 mm (0,23 in)
Bolt circle diameter	295 mm (11.61 - 11,8 in)
Front mount baffle cutout ø	280 mm (11,02 in)
Rear mount baffle cutout ø	280 mm (11,02 in)
Total depth	143 mm (5.63 in)
Flange and gasket thickness	14 mm (0.55 in)
Net weight	6,8 kg (14.95 lb)
Shipping weight	7,5 kg (16.53 lb)
CardBoard Packaging dimensions	332 x 332 x 184 mm (13,07 x 13,07 x 7,24 in)

FREQUENCY RESPONSE CURVE MADE ON 50 LIT. ENCLOSURE TUNED 60HZ 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) AES power is determined according to AES2-1984 (r2003) standard

(2) Program power rating is measured in 250 lit. enclosure tuned at 28 Hz using a 30-300 band limited pink noise test signal applied for 2 hours and with 50% duty cycle

(3) 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.

(4) 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.

(5) 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.

(6) 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.

(7) 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.

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