

B&W DM10

The Design Brief

The design brief for Model DM10 was to develop a loudspeaker system of compact dimensions, which was both cost effective in design and orthodox in styling to broaden the base of the B&W loudspeaker range to a wider audience.

Within this design aim it was felt essential to have a high quality wood veneered enclosure which, from a styling aspect would look equally at home in a vertical or horizontal format.

B&W Laboratories are among the finest in the world and our team of Research Engineers has designed such loudspeakers as Model 801, DM12, DM14 and DM16, all of which are acknowledged as leaders in their class by informed opinion throughout the world.

Model 801 is now the accepted reference standard by all major recording companies world-wide as their Classical music monitor and it is within the context of this background that the DM10 design brief was conceived, a design brief to produce a really competitive B&W loudspeaker with the broadest possible appeal.



(Optional stand)

The Drivers

The driver configuration chosen for DM10 is the classic 2 in-line vertical configuration. In view of the compact dimensions and high sensitivity requirement a departure from B&W's recognised "sealed box" technique has been made, and the DM10 Base Mid-Range driver is a 200mm nominal piston driver unit with a rigid cast alloy chassis and a motor system optimised for the vented enclosure design. The cone is an exceptionally light and rigid multi-strand fibre component critically impregnated by the B&W Laser interferometry design technique.

The high frequency transducer for DM10 is the well proven TW26 design so successfully employed in many of the B&W loudspeaker systems. It employs a 26mm high temperature epoxy bonded voice coil assembly, coupled to a critically damped multi-filament weave polyester dome, and offers wide dispersion, high power handling capacity and, due to the extremely low mass of the moving parts, excellent transient response.

The Crossover Network

Computer optimisation – a technique which allows the digital computer to optimise a large number of variable components to a degree of accuracy impossible by any other method was a B&W first some three years ago, and has been used to design all crossover and filter networks, including Model 801. This same system was used to design the DM10 crossover network which is a true third order Butterworth configuration, optimised for maximum performance and accuracy although embodying a simple and compact design.

All capacitors are close tolerance reversible electrolytic with generous 'over-designed' voltage ratings; inductors are

ferrite cored to minimize series DC resistance. The configuration employed in the DM10 crossover network offers a high attenuation of 18dB per octave outside the pass band, thus ensuring that drivers are working well within their optimum. This yields a worthwhile reduction in distortion and enhances stereo imaging.

The Enclosure Design

As mentioned in the design brief, prime requirement of DM10 was that it should have a genuine wood veneer enclosure and a styling which was restrained and had a broad appeal. A skilful application of modern mitre folding techniques has allowed expensive genuine wood veneers to be used on a highly rigid 12mm particle board enclosure.

Due to really effective driver isolation there is minimum coupling to the structure of the enclosure, and within its modest dimensions is formed a system which is remarkably free from colouration and yet due to its vented design has high sensitivity.

The Accessories

DM10 is a true bookshelf loudspeaker system capable of vertical or horizontal mounting, but where a free-standing application is preferred our STAV22 loudspeaker stand is highly suitable.

Conclusion

In DM10 we believe that a design has been created which will have the broadest possible appeal and widen the B&W quality engineering design to a larger audience which is precluded from having the somewhat larger and more expensive designs forming the mainstream of the B&W loudspeaker range.

SPECIFICATION

Frequency response

75Hz to 20kHz ± 3 dB free-field on listening axis at 2m.

Low-frequency System

Computer optimised tuned vent.

Dispersion

Vertical: ± 2 dB over 10° arc.

Horizontal: $+0 - 4$ dB over 60° arc, 20Hz–10kHz.

Drive Units

Two, vertical in-line.

Bass/mid-range Driver DW200/10

160mm piston with 26mm high-temperature voice coil.

High-frequency Driver TW26/10

26mm high-temperature epoxy-bonded voice coil and polyester weave dome.

Distortion

Second and third harmonic for a nominal s.p.l. of 90dB at 1m.

Less than 3% below 300Hz.

Less than 1% above 300Hz.

Impedance

Nominal 8 ohms. DIN (not falling below 6.4 ohms throughout the audio pass band).

Sensitivity

1 watt into 8 ohms for a s.p.l. of 87dB at 1m.

Power handling

Suitable for amplifiers 10 to 75 watts rms into 8 ohms.

Maximum s.p.l. at 1kHz 106dB, at 1m.

Dimensions

Height: 485mm (19in).

Width: 250mm (10in).

Depth: 235mm (9¼in).

Weight

6.6kg (14.5lbs).

Cabinet finish

Walnut veneer

B&W Loudspeakers Ltd. reserve the right to amend details of their specifications in line with technical developments.



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