

with the B&W DM14.

Like a photograph that is out of focus, a loudspeaker that presents a hazy, clouded image will never make music sound real.

In a camera, exact optical focus is achieved by the combination of advanced design and exacting construction standards. B&W Loudspeakers achieve musical focus by adhering to the same strict standards. Their advanced technology includes crossover designs optimized by computer and cone inspection performed by laser interferometry. B&W's flawless construction is evidenced throughout — from massive cast-alloy frames to exquisite wood veneer finishes.

B&W Loudspeakers reproduce much more than just the notes and overtones of a performance. By revealing the subtlest details of the music, they add a sense of depth and clarity that brings one much closer to the experience of listening to a live performance. Serious music listeners use a variety of terms to describe this elusive quality. We at B&W call it focus.

THE ELEMENTS ESSENTIAL FOR MUSICAL FOCUS

While thousands of design decisions have been made in the development of the DM14, several key parameters contribute most to its unique degree of musical focus. These design elements address subjects largely ignored by other loudspeaker manufacturers. It is precisely these elements which are essential to produce an outstanding loudspeaker as opposed to a merely good one.

ADVANCED POLYMER DRIVER MATERIALS



Rather than adopting the paper-cone drivers found in most medium-priced loudspeakers, B&W uses advanced synthetic materials in each of the DM14's drivers, with the characteristics of the materials formulated for each specific driver application. The two bass/midrange drivers of the system use Bextrene thermoplastic cones treated with a polyvinyl acetate laminate. The treble driver employs a polyester weave dome similar in most respects to the treble driver used in the B&W's B01 Studio Reference Monitor. The three units exhibit a virtue characteristic of all B&W drivers — extremely low driver-induced colouration, yielding a sonic transparency essential for proper musical focus.

ELIMINATION OF UNWANTED CABINET RESONANCES

In most small loudspeakers, major resonances of the speaker cabinet panels cause a booming colouration often called "boxiness." The solution is simple to define but difficult to achieve in practice — absolute rigidity of the cabinet walls. B&W comes very close to achieving this ideal in the DM14 through the use of internally-braced, high-density chipboard/bitumen laminate enclosure panels (less resonant pound-for-pound than reinforced concrete). Isolation fasteners separate the cabinet from the rigid cast alloy frames of the two bass drivers to further reduce transmission of vibrations.

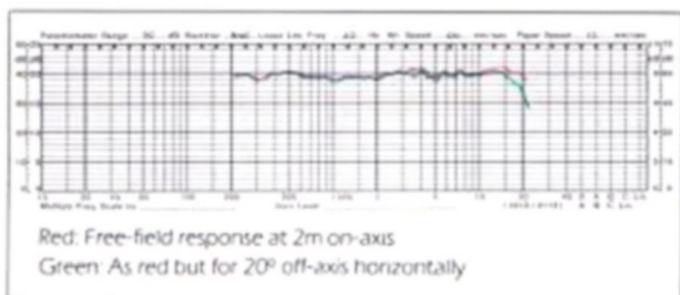


INNOVATIVE SYSTEM FORMAT WITH SOPHISTICATED CROSSOVER DESIGN



The B&W DM14's system format provides both the large cone surface necessary for low distortion bass performance and the small cone diameter best suited for midrange reproduction. The two bass drivers of the DM14 operate at low frequencies to provide large cone area. At higher frequencies, the response of one unit smoothly rolls off, leaving a single relatively small-diameter driver to reproduce the critical midrange musical information. At 3,000 Hz, a third-order complementary Butterworth crossover network (integrated with the first-order network used to roll off one bass driver's output) completes the transition to the treble driver's output. The network's components are studio quality throughout — overbuilt high-voltage reversible electrolytic capacitors and low-resistance ferrite-cored inductors are used exclusively.

CONTROLLED DISPERSION PATTERN



Extensive listening tests have proven that a controlled dispersion pattern—neither omnidirectional nor extremely “beamy”—projects the most convincing, three-dimensional stereo image. The DM14’s dispersion pattern satisfies this criterion almost perfectly. Its horizontal dispersion is within 2dB over a 40 degree angle, while vertical dispersion is within 2dB over a 10 degree angle. The result is a stable stereo image with far greater detail than has been previously available from conventional bookshelf loudspeakers.

PROTECTION AGAINST INPUT OVERLOADS

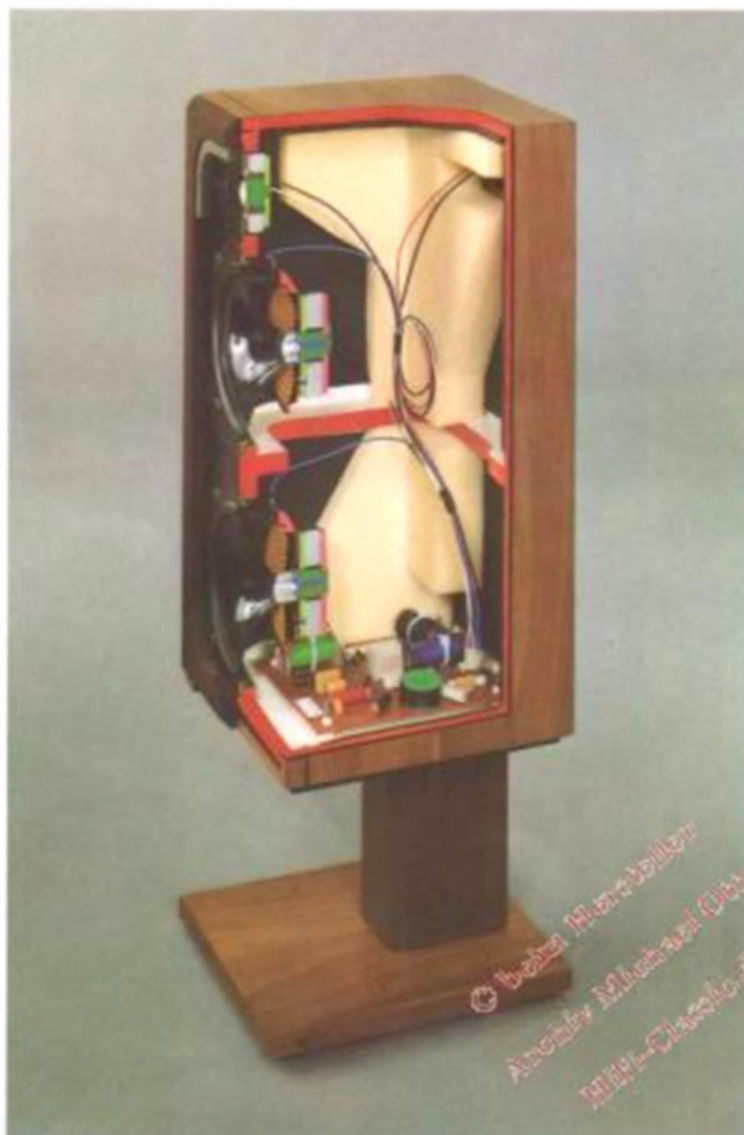
B&W’s 801 Studio Reference Monitor introduced the world’s first automatic overload protection system. The DM14 incorporates an even more refined version of this circuit—APOC (Audio Powered Overload Circuit). Any input signal approaching the thermal limits of the drivers is automatically attenuated until the overload condition has passed. Thus, the DM14 (and all other APOC-equipped members of the B&W range) are compatible with amplifiers of any power rating of 15 watts or greater.



SYNTHESIS OF VISUAL AND ELECTROACOUSTIC DESIGN ELEMENTS

B&W’s longstanding association with the world-renowned Pentagram design group combines the highest calibre of electroacoustic engineering skill with world-class visual design for a superb synthesis of form and function. Sized for unobtrusive use in virtually any home, encased in the finest of wood veneers, the DM14 is as visually elegant as it is technologically advanced.





DM14 SYSTEM DESCRIPTION: THE CONVENTIONAL LOUDSPEAKER WITH THE B&W DIFFERENCE.

Literally thousands of traditional three-way loudspeakers have been offered to the public in recent years, and a level of reasonable performance has come to be expected.

The DM14 was designed to take this category a significant step forward by achieving a new level of performance-precise musical focus. This has been accomplished through several B&W technological innovations; including polymer driver cones and domes, APOC electronic overload protection, and computer optimization of crossover network parameters and cabinet design.

The B&W DM14 may look like other loudspeakers, but that is where the comparison ends.

SPECIFICATION

Frequency response

80Hz to 20kHz ± 2 dB free-field on listening axis at 2m.

Low-frequency system

Acoustic suspension with third-order high-pass characteristic. -3 dB at approx 65 Hz (half-space loading)

Dispersion

Vertical: ± 2 dB over 10° arc free-field response.
Horizontal: $+0 - 2$ dB over 40° arc, 20Hz to 10kHz axial free-field.

Drive Units

Three, vertical in-line.

Bass/mid-range drivers (2)BM150/14

150mm dia. Bextrene cone heavily damped with p.v.a. compounds. 26mm dia. high-temperature voice coil, phenolic resin impregnated on a foil-lined former. Vibration-isolation mountings reduce excitation of minor structural resonances.

High-frequency driver TW26

26mm dia. polyester weave dome, 26mm dia. high-temperature voice coil. Total moving mass not more than 0.3g ensuring excellent transient response and extended frequency range above 20kHz.

Distortion

For a nominal s.p.l. of 95dB at 1m.

Second harmonic: Less than 3% 30 Hz to 200 Hz.
Less than 1% 200 Hz to 20 kHz.
Third harmonic: Less than 3% 30 Hz to 200 Hz.
Less than 0.5% 200 Hz to 20 kHz.

Impedance

8 ohms nominal. Not falling below 6.4 ohms throughout the frequency range 20 Hz to 200 kHz.

Sensitivity

1 watt into 8 ohms for a s.p.l. of 86dB at 1m, sine wave input at 1 kHz.

Power handling

Suitable for amplifiers having a power output of 15 watts or greater. No upper limit because of Audio Powered Overload Circuit (APOC). Maximum s.p.l. at 500 Hz 106 dB at 1m.

Dimensions

Height: 567mm (22 $\frac{1}{2}$ in).
Width: 258mm (10in).
Depth: 295mm (11 $\frac{1}{2}$ in).

Weight

19 kg with optional stand (41.8 lb).
16.50 kg without (36.3 lb).

Cabinet finish

Standard: selected veneers of teak, walnut or black ash.
Special: selected veneers of rosewood.

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

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