

DM310



DM320



B&W
LOUDSPEAKERS



USER
MANUAL

BEDIENUNGSANLEITUNG

GEBRUIKSAANWIJZING

MANUEL DE
L'UTILISATEUR

MANUALE DI
ISTRUZIONI

MANUAL DEL
USUARIO

INTRODUCTION

Models DM310 and 320 follow in the successful tradition of B&W's 100 and 500 Series loudspeakers, incorporating features normally found in much more expensive systems to improve performance in terms of lower colouration, higher power handling and greater dynamics.

The aim of this manual is to increase your knowledge of the speakers and, in doing so, give you greater enjoyment from their use. Because any high quality loudspeaker is dependent both on the signals fed to it and the environment (i.e. the listening room) in which it is used, we have devoted sections to each of these subjects.

B&W loudspeakers are distributed to more than 40 countries worldwide and we maintain an international network of carefully chosen distributors who aim to give you, the customer, the widest possible service. If at any time you should have any problem which your dealer cannot resolve, our distributors will be more than willing to assist you.

UNPACKING, INSTALLATION, ELECTRICAL CONNECTION AND AFTERCARE

Unpacking

We suggest that, after unpacking your loudspeakers, you should retain the packaging against the possibility of wishing to transport them at a later date. The carton contains:

- (a) Two B&W DM310/320 loudspeakers.
- (b) This user manual.

Installation

DM310/320 are designed to be used on rigid open stands and your dealer will be able to advise you on the most suitable types. Perfectly satisfactory results can also be obtained by shelf mounting. The height of the loudspeakers should be set so that the listeners' ears are at or near the same height as the reference axis (see specifications). Should this not be the case then the different time delays between the low- and high-frequency units can cause a response dip in the crossover region. If domestic constraints dictate that the systems cannot be placed at the correct height, refer to the section on electrical connections below.

Electrical connection

All connections should be made with the amplifier switched off.

Your system is provided with separate terminals for the low-frequency and high-frequency units, allowing it to be bi-wired (separate cables from a common power amplifier output to each pair of terminals) or bi-amplified (each unit fed from a separate power amplifier). Links between the two pairs of terminals have been fitted should either of these options not be used. To remove the links loosen the upper terminal caps and remove the lower terminal caps. The terminals will accept either bare wires or 4mm (1/8in) plugs on 19mm (3/4in) centres. The wire from the positive terminal of the power amplifier should be connected to the red capped terminal, marked with a '+'. It is important to observe the correct polarity when connecting a stereo pair of loudspeakers. Wrong connections to one channel can result in a loss of bass and an inability to focus a correct stereo image. Reversal of the polarity to one loudspeaker will restore the situation.

If it is absolutely necessary to listen vertically well away from the reference axis, output around the crossover frequency will suffer cancellation as the delay between the low- and high-frequency units approaches half a wavelength. The effect is maximised at angles between 20°–30° in either direction, but may be corrected by reversing the polarity of the connections to both high-frequency units only. This is only possible when the speakers are bi-wired or bi-amplified.

It is good practice to keep the connecting leads between the power amplifier and the loudspeakers as short as possible. Use heavy gauge wire to keep the DC resistance to a minimum, preferably below 0.2Ω (out and back). Excessive inductance in the cable can lead to a lowering of extreme high frequencies, whilst excessive capacitance can cause instability in certain power amplifiers. Your dealer will advise you on the most suitable cable for your needs.

Aftercare

The cabinet should be treated as any normal piece of furniture. If you use an aerosol cleaner, spray onto a cloth and keep it away from the front of the loudspeaker, especially the grille cloth and drive units.

If you need to clean the grille, first remove the frame by grasping the outer edges near the corners and gently pulling away from the cabinet. The material may then be brushed with a normal clothes brush or similar. Please avoid touching the drive units, especially the high-frequency unit, as damage could result.

THE LISTENING ROOM AND POSITIONING YOUR SPEAKERS

Choice of listening room

Few people are fortunate enough to have a choice of listening rooms, but for those to whom this is possible (or anyone choosing a new home) the following may be helpful guidelines:

- (a) Any room with different dimensions for ceiling height, length and width will sound more even in response than rooms where all the dimensions are similar.
- (b) Solid walls are preferable and will show better reproduction of low-frequency transients than some modern constructions where the inner walls are of plasterboard and slightly flexible.

- (c) Other than in houses with solid or concrete floor structures, a ground floor room is preferable to an upper floor.

Changing listening room acoustics

Quite small changes in the furnishing of a room can change its acoustic properties quite significantly. If you already have pictures on the wall, remove these experimentally and at once you will notice a considerable change in the sound from your loudspeakers! We are not suggesting that you should leave the room bare of pictures – quite the reverse, because pictures break up the otherwise plain wall surfaces and generally give fewer discrete high frequency resonances or flutter echoes.

Curtains are another element which can change the sound of your listening room in the mid/upper frequencies. Heavier curtains give more sound absorption of these frequencies and a softer, less reverberant quality to the upper octaves. Conversely if your room sounds too dead, thinner curtains will give more life or sparkle in these frequency regions. So far as sound in the low frequencies is concerned, this is largely controlled by the dimensions and construction of the room. However, large items of furniture do change room behaviour at low frequencies, and their placement may be worth experimenting with.

Placement of your loudspeakers

The spacing between your loudspeakers will depend on the size of your listening room and the distance of your seating from the loudspeakers. As a general rule they should not be closer than 1.5m (5ft) and the space between them should not exceed the distance of your seating for listening. Placement of the two loudspeakers and the listener on the points of an equilateral triangle is not a bad rule to follow.

The position of the loudspeakers in relation to the walls of the listening room can have a noticeable effect on reproduction – especially at low frequencies. Generally, bass will increase relative to the middle and high frequencies as the loudspeakers are moved nearer the walls. It is well worth experimenting until you have the most acceptable sound.

The choice as to which of the four walls to place your loudspeakers near will largely depend on your arrangement of furniture. But again, the option of the longer, as opposed to the shorter wall is well worth trying.

THE POWER AMPLIFIER

The recommended limits of the power output of the driving amplifier are given in the specification. However, in giving these limits it should be stated that the amplifier output requirement is almost impossible for the loudspeaker manufacturer to specify. It will depend entirely on the type of music reproduced, size of the listening room and sound level required. It is always better to have an amplifier with a high power output used sensibly, as it allows the proper reproduction of transients; whereas if the power output is too low, clipping can occur during high peak level transients. Apart from causing audible distortion, clipping results in a relative increase in the power fed to the high-frequency unit, with the possibility of thermal damage.

SPECIFICATIONS

DM310

DM320

DESCRIPTION	Shelf or stand mounting two-way, fourth-order, ported bass reflex digital monitor system with bi-wiring/bi-amplification facility	Shelf or stand mounting three-way, third-order, closed box digital monitor system with bi-wiring/bi-amplification facility
DRIVE UNITS	One 200mm (8in) bass/midrange with rigid die-cast chassis, reinforced polypropylene diaphragm and 31mm (1.2in) high-temperature voice coil. One 26mm (1in) high-frequency with metal dome, high-temperature voice coil, magnetic fluid cooling and controlled diffraction mounting plate	Two 200mm (8in) bass/midrange with rigid die-cast chassis, reinforced polypropylene diaphragm and 31mm (1.2in) high-temperature voice coil on Kapton former. One 26mm (1in) high-frequency with metal dome, high-temperature voice coil, magnetic fluid cooling and controlled diffraction mounting plate
FREQUENCY RANGE	-6dB at 53Hz and 30kHz	-6dB at 45Hz and 30kHz
FREQUENCY RESPONSE	70Hz to 20kHz ± 2 dB on reference axis	60Hz to 20kHz ± 2 dB on reference axis
REFERENCE AXIS	Horizontal: 150mm (6in) from top of cabinet	Horizontal: 150mm (6in) from top of cabinet
DISPERSION	Within ± 2 dB of response on reference axis 20Hz to 15kHz Horizontal: over 40° arc Vertical: over 10° arc	Within ± 2 dB of response on reference axis 20Hz to 15kHz Horizontal: over 40° arc Vertical: over 10° arc
SENSITIVITY	90dB (2.83V, 1m)	91dB (2.83V, 1m)
IMPEDANCE	Nominal 8 Ω (not falling below 4 Ω)	Nominal 8 Ω (not falling below 4 Ω)
CROSSOVER FREQUENCY	2.5kHz	400Hz and 2.5kHz
INTERNAL VOLUME	17.6 litres (0.62cu.ft)	33.4 litres (1.18cu.ft)
POWER HANDLING	Suitable for amplifiers with 10W to 100W output, continuous into 8 Ω on undistorted speech and music programme	Suitable for amplifiers with 10W to 150W output, continuous into 8 Ω on undistorted speech and music programme
DIMENSIONS	Height: 477mm (18.8in) Width: 262mm (10.3in) Depth: 220mm (8.7in)	Height: 656mm (25.8in) Width: 262mm (10.3in) Depth: 280mm (11.0in)
WEIGHT	7.2kg (15.8lb)	12.3kg (27lb)

Listening and record suggestions

Your DM310/320 system will take you a giant step nearer to listening to the music rather than to the loudspeakers. You will hear much more of the desirable ambience and detail in good recordings; unfortunately the faults in poor recordings will also be revealed. B&W have produced three special compact disc recordings that will enable you to enjoy a full appreciation of your new system. They are available from your dealer.

Luister — en muzieksuggesties

Uw DM310/320 luidspreker is een gigantische stap voorwaarts op het gebied van luisteren naar muziek in plaats van naar luidsprekers. U hoort veel meer gewenste diepte en details bij goede opnames. Fouten van slechte opnames worden echter ook duidelijk hoorbaar. B&W heeft drie speciale CD's geproduceerd, waarmee u volledig van uw nieuwe systeem kunt genieten. Ze zijn verkrijgbaar bij uw leverancier.

Suggerimenti d'ascolto

I vostri diffusori DM310 e 320 vi porteranno più vicino all'ascolto della musica piuttosto che del diffusore. Ascolterete molto di più della spazialità e dei dettagli nelle ottime incisioni: purtroppo verranno evidenziati i difetti delle registrazioni scadenti. B&W ha prodotto tre compact disc speciali che vi consentiranno di apprezzare a pieno i vostri diffusori. Sono disponibili presso il vostro rivenditore.

Schallplattenempfehlungen

Ihre B&W DM310/320 bringt Sie wieder ein großes Stück weiter auf dem Weg, mehr die Musik und nicht den Lautsprecher zu hören. Sie werden bei wirklich guten Aufnahmen sehr viel mehr Details wahrnehmen als bisher, allerdings werden bei schlechten Aufnahmen auch die Aufnahmefehler offenkundiger zu Tage treten. B&W hat deshalb drei spezielle CDs produziert, die Musik enthalten, die sowohl klanglich und aufnahmetechnisch wie auch in der Interpretation als hervorragend gelten und Ihrem Lautsprechersystem die Entfaltung seiner Fähigkeiten ermöglichen. Diese CDs sind bei Ihrem B&W-Handler erhältlich.

Suggestions d'écoutes de disques

Votre système 310/320 vous rapprochera plus de la Musique que d'une reproduction habituelle. Vous ressentirez davantage tous les détails qui créent l'atmosphère avec de bons disques; malheureusement les défauts des enregistrements 'moyens' seront aussi audibles.

Audiciones y discos sugeridos

Su sistema DM310/320 le hará dar un paso gigantesco en su acercamiento hacia la audición de la música y no de los altavoces. Usted podrá oír mucho más la atmósfera deseable y los detalles en las buenas grabaciones, cuya oferta, desafortunadamente es muy pobre. B&W ha producido tres grabaciones especiales en compact disc que le permitirán disfrutar con total apreciación de su nuevo sistema. Están disponibles en su proveedor.



BW001



BW005



BW002



BW006



BW003



BW007



BW004



BW008