

B&W Bowers & Wilkins

Nautilus™ 800 Series

Nautilus™801
Nautilus™802
Owner's Manual
and Warranty



Figure 1

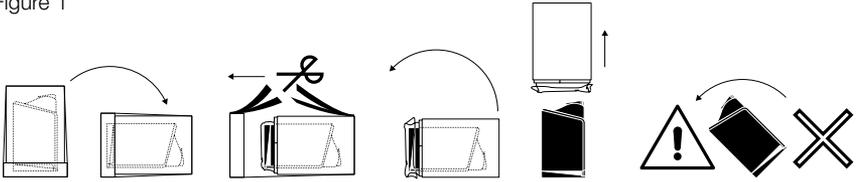


Figure 2

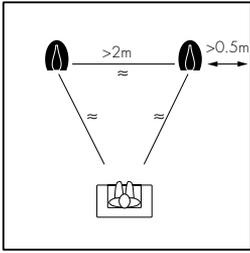


Figure 3a

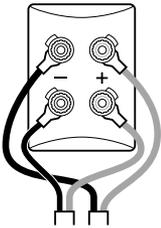


Figure 3b

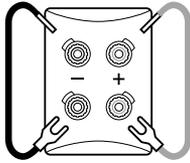


Figure 3c

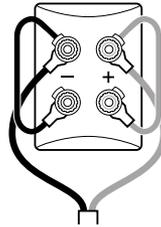
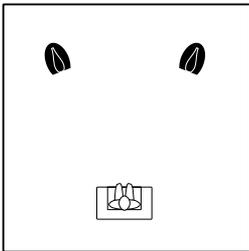


Figure 4



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English

Limited Warranty

Dear customer,

Welcome to B&W.

This product has been designed and manufactured to the highest quality standards. However, if something does go wrong with this product, B&W Loudspeakers and its national distributors warrant free of charge labour (exclusion may apply) and replacement parts in any country served by an official B&W distributor.

This limited warranty is valid for a period of five years from the date of purchase or two years for electronics including amplified loudspeakers.

Terms and Conditions

- 1 The warranty is limited to the repair of the equipment. Neither transportation, nor any other costs, nor any risk for removal, transportation and installation of products is covered by this warranty.
- 2 This warranty is only valid for the original owner. It is not transferable.
- 3 This warranty will not be applicable in cases other than defects in materials and/or workmanship at the time of purchase and will not be applicable:
 - a for damages caused by incorrect installation, connection or packing,
 - b for damages caused by any use other than correct use described in the user manual, negligence, modifications, or use of parts that are not made or authorised by B&W,
 - c for damages caused by faulty or unsuitable ancillary equipment,
 - d for damages caused by accidents, lightning, water, fire heat, war, public disturbances or any other cause beyond the reasonable control of B&W and its appointed distributors,
 - e for products whose serial number has been altered, deleted, removed or made illegible,
 - f if repairs or modifications have been executed by an unauthorised person.
- 4 This guarantee complements any national/regional law obligations of dealers or national distributors and does not affect your statutory rights as a customer.

How to claim repairs under warranty

Should service be required, please follow the following procedure:

- 1 If the equipment is being used in the country of purchase, you should contact the B&W authorised dealer from whom the equipment was purchased.
- 2 If the equipment is being used outside the country of purchase, you should contact B&W national distributor in the country of residence who will advise

where the equipment can be serviced. You can call B&W in the UK or visit our web site to get the contact details of your local distributor.

To validate your warranty, you will need to produce this warranty booklet completed and stamped by your dealer on the date of purchase. Alternatively, you will need the original sales invoice or other proof of ownership and date of purchase.

Owner's manual

Introduction

Thank you for choosing B&W.

Your Nautilus™800 Series speakers are precision transducers incorporating many innovative techniques unique to B&W and capable of reproducing recorded sound to the highest standards. So that they may perform at their best, it is essential to take time and care with the installation process. In particular, you must regard the listening room as an extension of the speaker. The acoustic character of the room can have a profound effect on the final sound quality.

Please read this manual fully before unpacking and installing the product. It will help you to optimise its performance.

B&W maintains a network of dedicated distributors in over 60 countries who will be able to help you should you have any problems your dealer cannot resolve.

Unpacking (figure 1)

The product is extremely heavy and will require more than one person to unpack and position it safely.

We recommend you wear gloves and strong shoes to avoid personal injury in case of accident. Observe the normal rules of good posture when lifting heavy objects to avoid strain. Remove any rings and bracelets to avoid damage to the surfaces of the product.

- Transport the speaker in its packing close to the intended position in the listening room.
- Lay the speaker face down on the floor, still in its packing.
- Cut through the straps round the carton. The straps are under tension. Stand to one side when cutting.
- Remove the lower packing tray to expose the plinth of the speaker.
- Open the polythene bag and pull it clear of the plinth.
- Stand the speaker upright and remove the remainder of the packing.
- Remove the transit clamp from the rear of the speaker, following the instructions on the label.

WARNING: Do not lean the speaker on its back when out of the packing as damage to the terminals may result.

We suggest you retain the packing for future use.

Check in the carton for:

- Midrange unit centre-bullet
- Brush
- 2 terminal link cables
- Cleaning cloth

Wood is a natural material and veneers vary between batches. Although supplied as single units, systems with consecutive serial numbers (odd number lower) have veneer-matched cabinets. Please be aware that if more than two speakers are purchased for a single installation, B&W cannot guarantee they will all be veneer matched.

Positioning (figure 2)

The speakers are provided with ball glides on the underside of the plinth to facilitate movement.

However, to prevent the weight of the speaker causing damage to non-carpeted floors, place a piece of felt or carpet under the plinth and slide the speaker into position. To manoeuvre the speaker without tipping, push low down on the cabinet.

To find the optimum position in the room may involve a certain amount of experimentation, but as an initial guide:

- Position the speakers and the centre of the listening area approximately at the corners of an equilateral triangle.
- Keep the speakers at least 2m apart to maintain left-right separation.

The proximity of the speakers to walls affects the sound quality. See the section "Fine Tuning" below.

Stray magnetic fields

The speaker drive units create stray magnetic fields that extend beyond the boundaries of the cabinet.

We recommend you keep magnetically sensitive articles (television and computer screens, computer discs, audio and video tapes, swipe cards and the like) at least 0.5m from the speaker.

Connections (figure 3)

All connections should be made with the equipment switched off.

There are 2 pairs of terminals at the back of the speaker to permit bi-wiring. The lower pair feed the bass and the upper pair feed the midrange and tweeter.

The terminals are insulated to prevent any likelihood of electrical shock, even when the speakers are used with the highest powered amplifiers, and accept a variety of cable termination to suit most applications.

Bi-wiring is the preferred method of connection and involves the use of separate cables from the amplifier to each pair of terminals. The separation of the signal paths improves the resolution of low-level detail and allows the user to optimise the type of cable to the frequency range of use.

Should you not want to bi-wire, perhaps during the initial set-up procedure or

because you do not want to see a multitude of cables in the room, short cables are provided to link both positive and both negative speaker terminals together.

When using the links, insert the spade into the slot in the side of one terminal and the crimped pin into the round side hole in the other. There is enough clearance to insert a spade connector from the amplifier into the same terminal as the crimped pin.

Ensure each positive terminal on the speaker (coloured red) is connected to the positive output terminal of the amplifier and negative (coloured black) to negative. Incorrect connection can result in poor imaging and loss of bass.

When bi-wiring, do not use the linking cables. Take extra care with the polarity of the connections as incorrect connection can also impair the frequency response through the bass-midrange crossover and, if the links are left in place, may cause damage to the amplifier by shorting its output terminals.

Fine tuning

Before fine tuning, double check that all the connections in the installation are correct and secure.

Moving the speakers further from the walls will reduce the general level of bass. Space behind the speakers also helps to create an impression of depth. Conversely, moving the speakers closer to the walls will increase the level of bass.

If the bass is uneven with frequency it is usually due to the excitation of resonance modes in the room.

Even small changes in the position of the speakers or the listeners can have a profound effect on how these resonances affect the sound. Try mounting the speakers along a different wall. Even moving large pieces of furniture can have an effect.

If the central image is poor, try moving the speakers closer together or toeing them in so they point at or just in front of the listeners. (figure 4)

If the sound is too harsh, increase the amount of soft furnishing in the room (for example use heavier curtains), or reduce it if the sound is dull and lifeless.

Test for flutter echoes by clapping your hands and listening for rapid repetitions. Reduce them by the use of irregular shaped surfaces such as bookshelves and large pieces of furniture.

For the most discerning listening, remove the bass and midrange grilles as described below in the section "Aftercare". The tweeter is very delicate and its grille should be left in position for protection.

For this reason the grille retaining ring is designed to provide the optimum acoustic environment for the unit and the response is less smooth with the grille removed.

Running-in period

The performance of the speaker will change subtly during the initial listening period. If the speaker has been stored in a cold environment, the damping compounds and suspension materials of the drive units will take some time to recover their correct mechanical properties. The drive unit suspensions will also loosen up during the first hours of use. The time taken for the speaker to achieve its intended performance will vary depending on previous storage conditions and how it is used. As a guide, allow up to a week for the temperature effects to stabilise and 15 hours of average use for the mechanical parts to attain their intended design characteristics.

Ancillary equipment

Speakers of this ability deserve signals of the highest quality. Choose your electronic equipment and interconnecting cables with care. We can give guidance on what to look for when choosing ancillary equipment, but cannot recommend specific items. The standards of such products are improving all the time and your dealer will be able to demonstrate a variety of suitable up-to-date products.

In the specification we recommend a range of amplifier powers. The higher figure is defined by the power handling capability of the speaker. When calculating the power handling, it is assumed that the amplifier is not run into clipping, which distorts the frequency power spectrum of the signal, and that the signal is normal programme material. Test tones from oscillators and the like are not applicable. The lower figure is the minimum we consider necessary to achieve reasonable listening levels without audible distortion in the smaller room (less than 60 m³ or 2000 cu ft). The higher the power you use, the less likely you are to experience amplifier clipping. You can often tell how good an amplifier is at driving complex speaker loads by looking at its power rating into both 4Ω and 8Ω loads. The nearer the ratio is to 2:1 the better, as it indicates a good current capability.

In order to reduce the effect the cable has on the frequency response of the speaker to inaudible levels, the impedance of the cable at all frequencies (measuring both positive and negative conductors in series) should be kept as low as possible and certainly below 0.1Ω. At low frequencies, the DC resistance of the cable is the dominant factor and you should choose a gauge of wire sufficient to achieve the impedance requirements over the length of cable you need to use. At mid and high frequencies the inductive component of the impedance can dominate the DC resistance. This and other properties influenced by the detailed construction of the cable become important. Ask your dealer for advice on the best cable for your needs.

Aftercare

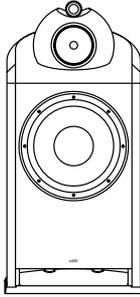
The bass cabinet surface usually only requires dusting, but the gloss surface of midrange and tweeter housings will benefit from the use of an anti-static cleaner. If you

wish to use an aerosol cleaner, remove the cloth covered grilles first and spray onto the cleaning cloth, not directly onto the cabinet. Do not attempt to remove the tweeter grille.

Remove both cloth covered grilles by gripping at the outer edges and gently pulling away from the cabinet. To replace the bass grille, locate the pegs in the holes in the bass unit trim ring (Nautilus™801) or the cabinet (Nautilus™802) and push into place. To replace the midrange grille, locate the central peg in the hole in the tip of the bullet shaped dispersion modifier at the centre of the drive unit and push the centre of the grille firmly. The outer rim of the grille is held in place by spring tension in the spokes of the grille fret.

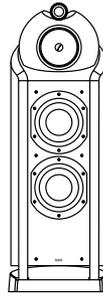
The grille fabric may be cleaned with the brush provided while the grille is detached from the cabinet.

Avoid touching the drive unit diaphragms, especially the tweeter, as damage may result.



Nautilus™801

Technical Features	Nautilus™tweeter Nautilus™head Kevlar® brand fibre cone FST drive unit Matrix cabinet Flowport
Description	3-way vented-box system
Drive units	1x ø25mm (1 in) metal dome high-frequency 1x ø150mm (6in) woven Kevlar® cone midrange 1x ø380mm (15 in) paper/Kevlar® cone bass
Frequency range	-6dB at 23Hz and 30kHz -3dB at 29Hz and 22kHz
Frequency response	37Hz - 20kHz ±2dB on reference axis
Dispersion	Within 2dB of response on reference axis Horizontal: over 60° arc Vertical: over 10° arc
Sensitivity	91dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1.0% 50Hz - 20kHz <0.5% 60Hz - 18kHz
Nominal impedance	8Ω (minimum 3.0Ω)
Crossover frequencies	350Hz and 4kHz
Power handling	50W – 1000W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω
Dimensions	Height: 1111mm (43.7 in) Width: 522mm (20.6 in) Depth: 690mm (27.2 in)
Net Weight	104.0kg (229 lb)



Nautilus™802

Technical Features	Nautilus™tweeter Nautilus™head Kevlar® brand fibre cone FST drive unit Matrix cabinet Flowport
Description	3-way vented-box system
Drive units	1x ø25mm (1 in) metal dome high-frequency 1x ø150mm (6in) woven Kevlar® cone midrange 2x ø200mm (8 in) paper/Kevlar® cone bass
Frequency range	-6dB at 27Hz and 30kHz -3dB at 34Hz and 22kHz
Frequency response	39Hz - 20kHz ±2dB on reference axis
Dispersion	Within 2dB of response on reference axis Horizontal: over 60° arc Vertical: over 10° arc
Sensitivity	91dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1.0% 50Hz - 20kHz <0.5% 90Hz - 18kHz
Nominal impedance	8Ω (minimum 3.0Ω)
Crossover frequencies	350Hz and 4kHz
Power handling	50W – 500W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω
Dimensions	Height: 1106mm (43.5 in) Width: 385mm (15.2 in) Depth: 548mm (21.6 in)
Net Weight	70.0kg (154 lb)

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