UNPACKING, INSTALLATION, ELECTRICAL

Unpacking
We suggest that, after unpacking your loudspeakers, you should retain the packing in case it is necessary to transport them at a later date.

The carton contains:
(a) Two Matrix 805 loudspeakers and two grilles.
(b) Two pairs of terminal link wires.
(c) One copy of this user manual.
(d) Two calibration certificates.
(e) Eight rubber feet.
(f) One high-pass bass alignment filter.

Installation
Your Matrix 805 loudspeaker system is designed to be shelf or stand mounted.

For shelf mounting, each system can be fitted with the self-adhesive rubber feet. Attach by removing the peel-off backing and applying to the underside corners of the cabinet approximately 1cm (0.5in) from each edge. Should you wish to stand the speakers on an unrened surface it is suggested that only three feet are fitted with two at the front corners and one centred at the rear.

Electrical connection
Your speakers are fitted with two pairs of input terminals, allowing the system to be bi-wired (separate cables from a common power amplifier to each pair of terminals) or bi-amplified (each pair of terminals fed from a separate amplifier). (Fig. 3). The positive (+) and negative (−) terminals should be connected to the respective (+) and (−) amplifier outputs using a good quality cable of at least 1.5mm conductor area.

AMPLIFIER, CONTROL UNIT AND SOURCE

The power amplifier
The recommended limits of power output for the driving amplifier are given in the specification. However, in giving these limits it should also be stated that amplifier power output requirement is an almost impossible task for the loudspeaker manufacturer to specify. It will depend entirely upon the type of music reproduced, size of listening room and sound level required. It is always better to have an amplifier with high power output as this allows the proper reproduction of transients whereas if the amplifier 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.

The control unit
The control unit - although it deals with small voltages rather than large currents as in the case of the power amplifier - is an equally critical part of your listening chain.

LOUDSPEAKER ACCESSORIES

Here we comment briefly on three accessories associated with loudspeakers.

Stands
The performance of loudspeakers can often be degraded by the use of an unstable stand. To avoid this problem B&W have produced a purpose-designed stand for the 805 as an optional extra.

Whilst some other designs will function equally well, you are advised to audition any prospective speaker/stand combinations carefully.

Cables
The subject of cables between the power amplifier and loudspeakers is dealt with under Electrical connection. There remains the question of interconnecting cables between the various pieces of equipment and the power amplifier. A number of excellent cables are available on the market and audible differences certainly exist between them. We suggest, therefore, that you choose one of the better cables for this purpose, after consideration of the published reports.

High-pass bass alignment filter
This external filter gives the possibility of extending the response down to 40Hz (-3dB point) with a sixth-order Butterworth alignment, and also filtering out sub-sonic frequencies which may give rise to excessive case excursions and intermodulation distortion.

The unit may be either connected permanently between the pre-amplifier and power amplifier, or to the tape input and output sockets of the pre-amplifier, enabling it to be switched in and out by means of the tape monitor switch (Fig. 3).
THE LISTENING ROOM AND POSITIONING YOUR LOUDSPEAKERS

The degree of accuracy with which the original musical performance can be reproduced in your own home depends on a number of factors, including the quality of the original recording, the equipment used for reproduction and the acoustic properties of your listening room.

Regardless of other links in the chain, the listening room will to a greater or lesser degree impart its character on the reproduced sound you hear. In simple proof of this statement, notice how the sound of the human voice changes according to environment.

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 walls 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 designation of the Matrix 805 as a shelf mounting loudspeaker presupposes that it will be used close to a wall.

The effects of such placing have been taken into account in the special low frequency alignment unique to the 805. The size, shape and acoustic treatment of listening rooms can vary almost infinitely, however, it still remains true that changes in the position of your loudspeakers will have a great influence on the sound balance and stereo image than any other variable under your control.

Placement in corners is not recommended, but if this is unavoidable it is worthwhile limiting it to one speaker only. In this case you may well prefer the balance without the alignment filters due to the extra low frequency boost which results from such placing — indeed, even on a more normal placing you may still prefer to switch out the filter on some bass-heavy recordings.

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.

A final word about symmetry. For best balance of stereo information the boundary conditions relative to each of the two loudspeakers should be as acoustically similar as is possible.
**SPECIFICATION**

**MATRIX 805**

**FREQUENCY RANGE**
(-6dB points) 35Hz to 29KHz

**BASS LOADING**
Sixth-order Butterworth alignment
42Hz cut-off

**FREE-FIELD RESPONSE**
Listening min ± 0.4dB 45Hz to 20kHz
± 0.5° horizontal ± 0.6° to 1kHz
± 5° vertical ± 0.4dB to 20kHz

**SENSITIVITY**
87dBspl (2.83V at 1m)

**DRIVE UNITS**
One 165mm (6½in) bass/midrange with Kevlar cone. One 39mm (1½in) high-frequency with metal-dome, high-temperature voice coil and ferrofluid cooling.

**DISTORTION**
For 90dB at 1m
Second harmonic:<br> < 0.0% (20Hz to 150Hz)<br> < 1.0% (150Hz to 20kHz)
Third harmonic:<br> < 0.5% (20Hz to 150Hz)<br> < 1.0% (150Hz to 20kHz)

**IMPEDANCE**
Nominal 8Ω (not falling below 4Ω)

**POWER HANDLING**
Suitable for amplifiers with 50 to 100W output into 8Ω

**DIMENSIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>805H</td>
<td>332mm (13¼in)</td>
<td>407mm (16in)</td>
<td>250mm (9½in)</td>
</tr>
<tr>
<td>805V</td>
<td>334mm (13¼in)</td>
<td>260mm (10¼in)</td>
<td>290mm (11½in)</td>
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</tbody>
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**WEIGHT**
8.5kg (18.7lbs)

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

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**LISTENING SUGGESTIONS**

Your B&W 800 Series 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 these special compact disc recordings enabling you to enjoy a full appreciation of your new system. They are available from your dealer.