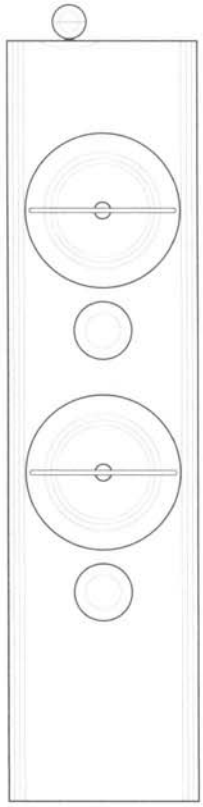
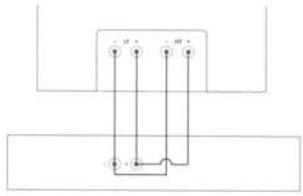
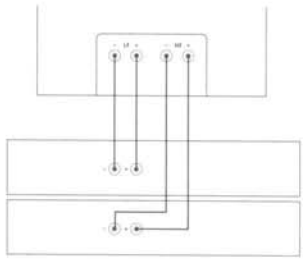
Signature 30



User manual

The Signature 30 loudspeaker represents a unique celebration of the art of loudspeaker design – the culmination of 30 years of innovative work by B&W's team of scientists and engineers. Using silver wiring in its signal path, this alluring speaker combines a dynamic bass with an exquisite midrange and treble to bring you a richly detailed sound of great smoothness and accuracy, able to do justice to the finest source material available today.





Installation

This manual explains how to set up and connect your speakers and how to achieve the finest performance from them in terms of positioning and listening room acoustics.

Each Signature 30 carton contains: one Signature 30 loudspeaker; four steel spikes; a calibration certificate; and a copy of this user manual.

The first step

Once you have unpacked your speakers, the first step is to identify where to place them to achieve the best possible results (see Listening Room details). When you have chosen the best position, place the speakers in situ and fit the spikes into the threaded inserts on the underside of the cabinet, as illustrated. Adjust each spike until you have achieved a level balance, so that the speaker cabinets feel firm and well anchored.

Electrical connection

Before connecting your speakers, first make sure that your hi-fi system is turned off. Each Signature 30 speaker incorporates a passive network, suspended on rubber mounts at the base of the speaker cabinet.

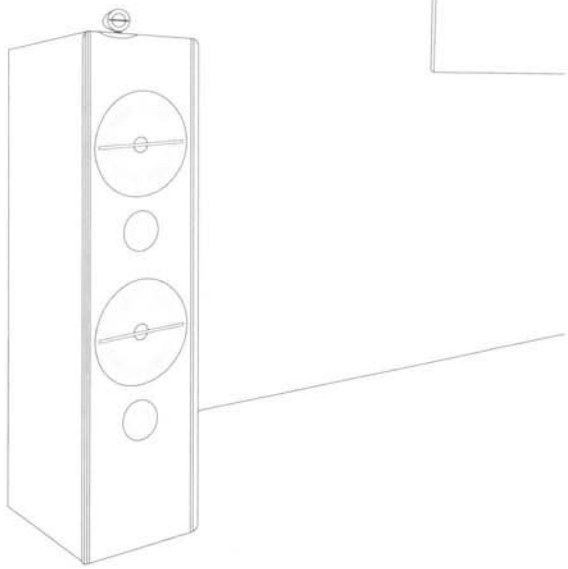
The system has been designed for bi-wiring and bi-amplification, as illustrated, with two pairs of gold-plated terminals at the back of each speaker, one for high frequencies and the other for low frequencies.

When bi-wiring, connect two cables from the amplifier's positive terminal, one to each of the HF and LF positive terminals on the Signature 30. Follow the same procedure for the negative connections.

For bi-amplification, connect a single cable from the positive terminal on the HF amplifier to the positive HF terminal on the speaker, and the negative to the negative. Follow the same procedure for the LF amplifier.

It is important that all amplifiers should have closely matched gains and polarity and that terminal caps are fully screwed down after connection, to avoid rattling.

Listening room



A matter of choice

Regardless of other links in the listening chain, your listening room will, to a greater or lesser extent, imprint its character on the sound you hear from your hi-fi system. If you are able to choose your listening room, it is best to follow these guidelines: avoid rooms where the dimensions (length, width and ceiling height) are of a similar size; choose a room with solid walls rather than one where the inner walls are made of plasterboard on a wood frame (flexible walls will affect low frequency transients); and, unless your home is constructed with solid floors throughout, choose a ground floor room rather an upper floor.

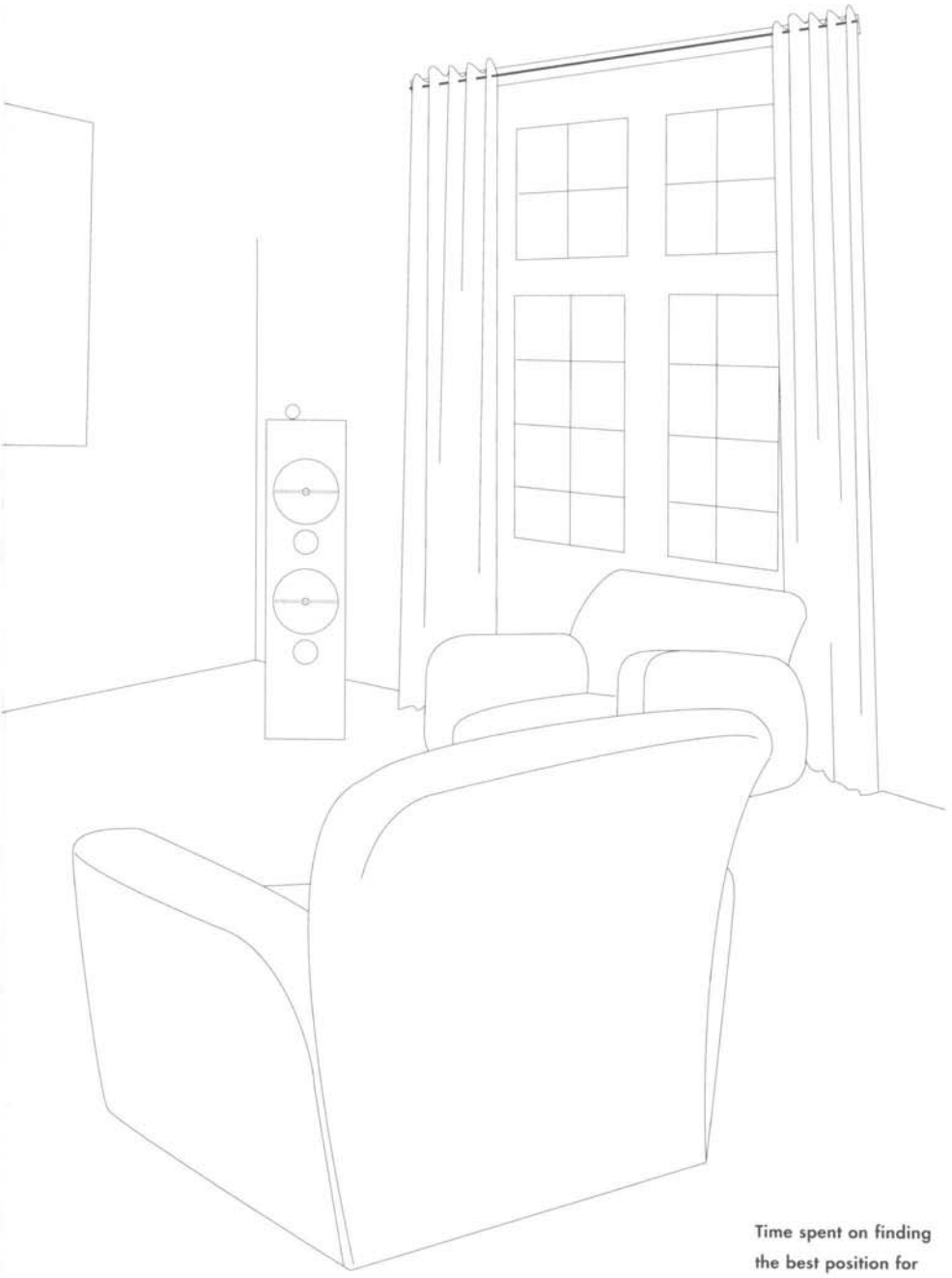
Finding a balanced location

Once you have chosen your listening room, the next step is to find the best location for your Signature 30 speakers. In general, you should aim for an equilateral triangle between the listener and the two loudspeakers. The minimum distance between the speakers and the listener should be 1.5m (5ft).

The position of the loudspeakers in relation to the walls of your listening room will also have a noticeable effect, especially at low frequencies. As loudspeakers are moved nearer to the walls, the bass will usually increase relative to the middle and high frequencies. Placing your speakers hard against a wall or in a corner may give rise to too much bass and produce a boomy quality.

It is also best to choose a dissimilar spacing between the loudspeakers and the two nearest walls, for example 0.8m (2½ft) from the rear wall and 1m (3¼ft) from the side wall or perhaps 0.5m (1½ft) from the rear wall and 1.5m (5ft) from the side wall. Stereo information in the front-back plane improves if the rear wall is at least 0.5m (1½ft) from the back of the loudspeaker.

A final point to note is that for the best balance of stereo information, each speaker should be similarly placed in relation to its surrounding walls, i.e. do not have one speaker far from the walls and one close to them.



Time spent on finding the best position for your Signature 30 loudspeakers will pay dividends in terms of accurate stereo imaging and bass extension. In general, choose an equilateral triangle as your starting point, with your speakers angled inwards, well away from the surrounding walls.

Changing the acoustics

Small changes in the furnishing of a room can make a dramatic difference to its acoustic properties. Curtains, wall-hung pictures and large items of furniture all make a difference to the sound you hear.

Heavy curtains, for example, absorb sound from the middle and upper frequencies and give a softer, less reverberant quality to the upper octaves. Conversely, if the sound seems deadened, thinner curtains will give more life and sparkle to the mid and high frequencies.

Pictures on your listening room walls also play an important part in improving the acoustics. They break up plain surfaces and reduce high frequency flutter echoes.

At the other end of the spectrum, low frequency sound is mainly affected by the dimensions and construction of the listening room, but it can also be altered by changing the position of large items of furniture.

It may take time to find the best combination of placement and furnishings but the result will be superb sound from a wonderful pair of speakers. Listen and you'll see.

Source Equipment

The accuracy of what you hear from your hi-fi system depends on a number of factors including the quality of the original recording, the source equipment (CD-players, phono players, tuners, and pre and power amplifiers), the transparency of your loudspeakers and the acoustic properties of your listening room. Careful matching of source equipment will pay dividends.

Nominally rated at 8 ohms, the Signature 30 is compatible with a wide spectrum of amplification, both vacuum tube and solid state. Depending on room size, amplifier power ratings per channel can range from 50 watts continuous reaching up to a maximum of 200 watts.

The power amplifier

The recommended limits of power output for the driving amplifier are given in the specifications. However, in giving these limits, it should be noted that the amplifier power output requirement is an almost impossible figure for a loudspeaker manufacturer to specify. It will depend entirely on the type of music produced, the size of the listening room and the sound levels required. Nevertheless, it is always better to choose an amplifier with a 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, opening the way to possible thermal damage.

The control unit

Although the control unit, or pre-amplifier, deals with small voltages rather than the large currents handled by the power amplifier, it is an equally critical part of the listening chain and should be chosen with great care, since the transparency of your Signature 30 loudspeakers will tend to show up under-achieving amplifiers.

The ultimate test for a top quality high fidelity audio system is critical listening – and the combination of variables which makes up the listening chain should be carefully assessed before making a final choice.

Aftercare

Signature 30 cabinets should be treated as any normal piece of furniture and are best cleaned with a soft cloth. If you use an aerosol cleaner, spray directly onto the cloth, keeping the spray away from the front of the drive units. To avoid accidental damage, please avoid touching the drive units, especially the high-frequency driver.

Specification

Description	3 way vented-box system
Drive units	1 x 180mm (7in) aluminium cone bass
	1 x 180mm (7in) Kevlar® cone bass/mid Silver coil
	1 x 25mm (1in) metal dome HF Silver coil
Frequency range	-6dB at 30Hz – 26kHz
Frequency response	40Hz – 20kHz +/-3dB on reference axis
Dispersion	Within 2dB of reference response 60° Arc horizontal, 10° Arc vertical
Sensitivity	89dB for 2.83v at 1m
Harmonic distortion	2nd and 3rd harmonic less than 1%, 30Hz – 20kHz, at 90dB 1m
Nominal impedance	8Ω (above 6.5Ω 10Hz – 5kHz, min. 5Ω at 9kHz)
Crossover Frequencies	Mid – HF 3kHz, Lower bass driver output rolled off above 150Hz
Recommended amplifier power	50W – 200W into 8Ω
Dimensions	Height 1020mm (40⅛in)
	Width 264mm (10⅜in)
	Depth 380mm (15in)
Weight	37kg (81.6lbs)
Finishes	Grey Tiger's Eye piano gloss and Red Bird's Eye piano gloss

B&W Loudspeakers Limited,
Meadow Road, Worthing,
England, BN11 2RX.
Phone +44 (0) 1903 524801
Fax +44 (0) 1903 524725
http://www.bwspeakers.com