

# ELAC BS 312 loudspeakers

by Alan Sircom



It's an old adage – “you can't squeeze a quart into a pint pot”. Or, in Star Trek speak, it's Mr Scott saying, “Ye cannae change the laws of physics, Cap'n.”

ELAC's Line 300 series begs to differ. Because ELAC appears to do the impossible; real, useful bass out of a tiny loudspeaker, like the BS 312 tested here.

On the face of it, the BS 312 shares a lot in common with many ELAC designs, especially as the company has long promulgated the use of deceptively big sounding small speakers; this time, ELAC uses its JET 5 version of the Air Motion Transformer coupled with a 115mm AS-XR cone (also made in house by ELAC) and the rear-ported, single-wired loudspeaker is diminutive, uses an extruded aluminium cabinet and is best used on the dedicated stands designed to fit a range of ELAC standmounts. It's small, surprisingly heavy and very well made. And none of this gets over precisely what the BS 312 is capable of, if you view this from a surface perspective.

Look closer. That JET 5 tweeter is a folded ribbon design, which works by folding the ribbon through a series of neodymium bar magnets. This is a high-precision process that is only possible in the hands of a specialist (a fraction of a millimetre out in one of the folds and the tweeter is virtually useless; it's a job that requires a steady hand, a keen eye and infinite patience)... although the process is aided by robots. This manages to combine efficiency, power

handling and break-up far outside the audible spectrum (around 50kHz) – the kind of trifecta of tweeter goodness. Variants on Oskar Heil's device are relatively uncommon – Adam, Audiovector, Burmester, Mark & Daniel and more recently MartinLogan and Yacht Audio join ELAC on the AMT trail, and a few of those do so by buying JET 3 tweeters from ELAC (he said quietly).

Then there's that 115mm AS-XR cone made specifically for the BS 312, a clever sandwich arrangement with an outer layer of aluminium bonded to a paper cone in that distinctive 'crystal membrane' succession of triangles arrangement that adds rigidity and reduces resonance and colouration.

I've seen driver this on the test bench being played to unfeasibly high levels (the kind of levels that wouldn't just break a bass driver, but immolate it!) without the slightest complaint. It's ability to take power like it's going out of fashion is what keeps this loudspeaker a contender when facing off against loudspeakers five times its size.

The crossover network sits on two small PCBs to the rear of the speaker, just in front of the single-wired terminal block. The crossover point sits high at 3.2kHz, which places it squarely at the top end of our most sensitive region of hearing, and the crossover itself bristles with air-cored inductors and high-grade ELAC-branded caps. Even the internal wiring looks above average.

The stand should almost be considered near integral to the design. While it is designed to be used with a number of different ELAC designs (as a consequence you end up with a lot of unopened baggies and at two top-plates) the stand terminates in a trio of sharp, stainless steel spikes that lock onto holes in a plate that attaches to the underside of the BS 312. This is not as precarious as it looks (although the thought of 7.5kg resting on long upturned spikes is troubling, the speakers do sit solidly) and it works surprisingly well. Twice over; the plate bolted to the BS 312 seems to both lower the speaker's centre of gravity and reduces ringing and the everything is decoupled from everything else.

The speakers demand both quality and quantity. They need an amplifier with a very clean delivery, especially in the mid and treble, and a lot of power in tow. ELAC itself is the distributor for Primare in Germany and this seems an ideal coupling, as does the Norma REVO IPA-140 tested last issue (and imported by the UK distributor). I also used the speakers to good effect with the Devialet 170, although the two were quite forward in combination and this emphasised the potential for leanness in the speaker. However, the BS 312 demands that grade of amplifier power and clarity, and such things are well rewarded.

They also demand careful installation. This is a precision listening instrument and as a consequence needs to be placed with precision. Level is a given (the tall, up-facing spikes will make you level the speakers as a matter of course) but placement in the room is vital too. A combination of 'voweling in' (having someone determine the ideal 'first fit' position by talking and hearing how their voice changes relative to the distance from the walls) and some toe-in when fine tuning worked well. While the speakers are not directional at all (they are almost a point source), the stereo improves significantly if the speakers are toed about 20° from firing straight down the room. They also need to be surprisingly far into the room, for a speaker small enough to suspect it needs some reinforcement off the walls.

There are two loudspeakers in one, here. First, use the BS 312 in a surprisingly large room, and there's a very high wow factor here. Wow, as in, ▶





## TECHNICAL SPECIFICATIONS

2 way bass reflex bookshelf loudspeaker

**Drivers:** 1x JET 5 tweeter, 1x 115mm AS XR cone

**Frequency Response:** 42Hz-50kHz

**Sensitivity:** 87dB/W/m

Nominal impedance 4 ohm

Minimum impedance 3.4 ohms at 280Hz

**Dimensions (HxWxD):** 20.8 x 12.3 x 27cm

**Weight:** 7.2kg

**Finish:** Gloss black, Gloss white

**Price:** £1,479 per pair

(Stands: £399 per pair)

**Manufactured by:** ELAC GmbH

**URL:** [www.elac.com](http://www.elac.com)

**Distributed by:** Hi-Fi Network

**URL:** [www.hifi-network.com](http://www.hifi-network.com)

**Tel:** +44 (0)1285 643088

- ▶ “wow, it’s surprising just how much sound it’s possible to extract out of so small a set of speakers”. This is a room filler, irrespective of the size of room. Which leads us to BS 312 part two – how it works in a smaller room, where its diminutive footprint is an obvious advantage.

Going back to the larger room, there’s always something unexpected about getting a large sound from a small loudspeaker, but this one is smaller than most and makes a larger sound than most. It’s also deeper than you’d imagine too. OK, so let’s be really honest about the bass depth – it’s never going to send full-range speaker owners into apoplexy, and it probably wouldn’t be the first choice for playing dub, but the depth of bass is far broader, deeper and more intense than any speaker this small should be capable of. And this in relatively large rooms!

This isn’t smoke and mirrors. The speaker is making a good deal of great bass too; I played the classic Du Pre version of Elgar’s Cello Concerto (EMI SACD) and the sense of scale of her cello and the power of the orchestra behind her. This also means they play very loud indeed; not just for a small speaker, but loud and with no noticeable break-up or tonal shifts until you get into very high volumes.

There’s another key aspect of the sound of the BS 312s. They are fast. Blisteringly fast. Let’s temper that. Blisteringly fast as in ‘they have excellent transient response’ not ‘they have a treble that could peel paint’. They are extremely balanced loudspeakers in fact, and that JET 5 tweeter is a very smooth operator. No, the BS 312 merely plays sounds accurately and honestly. This came across best with ‘Teardrop’ by Massive Attack and especially ‘Where is my Mind’ by the Pixies, both of which can sound dynamic, or shrill. With the BS 312, they sounded dynamic.

The speakers are more comfortable in a small room, it must be said. The size of the speakers matches the space and the bass delivery is a perfect match for those who are trying to get a true high-end sound out of a small box. In a small living room, they come alive; they were impressive in a big room, but they sound just perfectly balanced in smaller settings. In this setting, the power handling becomes less important (although they still benefit from Big Power) but the scaling and texture these speakers portray becomes key. And in that setting, the speakers do that disappearing act that is so often talked about but so rarely experienced. The speakers have an immediacy to them that is constantly alluring and makes the kind of sound that when the ‘I can’t believe they can do that’ feeling begins to wear off, you have your whole record collection to get through.

Big speakers are alluring for all the effortless energy, but the tiny BS 312 proves one good little ‘un can often beat the big ‘uns. That combination of transparency and insight into the music will not let the ELACs down, and you’ll have a lot of music to get through because you’ll be hearing your albums anew. Highly recommended. +