

## ACTIVE LOUDSPEAKER

Three-way powered (active) floorstanding loudspeaker  
Made by: ELAC Electroacoustic GmbH, Kiel, Germany  
Supplied by: Hi-Fi Network, Cirencester, UK  
Telephone: 01285 643088  
Web: www.elac.com; www.hifi-network.com  
Price: £3590

AUDIO  
FILE

hi-finews  
OUTSTANDING  
PRODUCT

# ELAC Navis ARF-51

The new ELAC Navis 'powered speaker' series is a slick system alternative, whether or not you use it wirelessly  
Review: **James Parker** Lab: **Keith Howard**

As one of the largest-scale speaker manufacturers around, US/German company ELAC has what can sometimes seem like a baffling range, all the way from very affordable mini-monitors and 'subwoofer and satellites' packages right the way up to very high-end floorstanding designs. And apart from the sheer breadth of the lineup, this diversity allows it to explore a variety of technologies: in this range there's no signs of a 'one design fits all, just in different scales' approach.

One striking example is the new Navis series, combining what the company calls 'powered' speakers with the option of wireless communication, and available in standmount and floorstanding flavours. The smaller two-way ARB-51 sells for £1795 a pair, while the ARF-51 is nearly twice the price, at £3590, with both models available in a choice of gloss black or white, or Ebony Emara wood finish should you prefer a more 'old school' speaker look.

The optional Navis Transmitter Air X<sup>2</sup>, which allows the speakers to be used wirelessly – well, without any physical connection other than mains supply – is just £129, or the speakers can be partnered with the Discovery Connect DSC-101W-G supplied with the review pair, at £399 [see boxout, p49].

### TRACK RECORD

This is far from the first powered/wireless design from ELAC, but the Navis series is different. Rather than being the work of ELAC HQ, it's been designed by the US arm of the company, and more specifically by Andrew Jones [see p21].

Now Vice President of Engineering at ELAC America, where he heads up a dedicated design facility in California, Jones has a well-respected track record extending back through KEF, Infinity, TAD and Pioneer, and a reputation for designing speakers able to perform well beyond their price. He set out his stall soon after arriving

at ELAC with the little B5 and B6 speakers [HFN May '16], the B5 selling for \$230/pr! So the Navis series is very much a Jones design, and the ARF-51 certainly cuts an impressive figure in its gloss black finish, standing just over a metre tall yet slim at just under 19cm wide. And the speaker feels reassuringly solid, not just due to the fit and finish of its drivers, cabinet and bolt-on stabilising plate/plinth, which spreads the footprint of the speaker for greater stability and accepts the spikes. The all-up fighting weight of the speaker is just over 20kg, with stability further assisted by the location of all the electronics toward the base of the enclosure.

### ACTIVE DESIGN

The driver complement kicks off with a concentric treble/mid unit, the 25mm soft-dome tweeter being mounted centrally within a 10cm aluminium-cone midrange for enhanced integration and focus, both the shape of the mid cone and a mesh grille helping control the tweeter's dispersion. Below that sits a pair of 13.5cm bass units, again with aluminium cones, while within the speaker are the amplifiers for each driver. These comprise a 160W BASH (Bridged Amplifier Switching Hybrid) module for the bass, a similar 100W amp for the midband, and a 40W conventional Class AB amplifier that drives the tweeter.

ELAC may, rather modestly, describe these speakers as being 'powered', but by any accepted use of the term this is an active design, with separate amps for each drive unit, and a user-adjustable electronic crossover. There are ±1dB adjustments for the mid and treble, a +1/-4dB selector for the bass, and also a 60Hz/80Hz/flat

**RIGHT:** Powered by three BASH amps, the ARF-51 combines a trio of 5.25in aluminium-coned bass units with a concentric 4in alloy mid/1in soft dome tweeter. It can be used 'direct' or via ELAC's Discovery Connect wireless transmitter



### WIRED OR WIRELESS?

Based on the inaugural Discovery DS-S101-G network music player [HFN Dec '16] – ELAC's bespoke streaming platform – the £399 DS-C101W-G AirX<sup>2</sup> wireless transmitter supplied for this review is one of two devices available to send music to the ARF-1 and ARB-1 speakers. The less expensive option is the £129 Navis Transmitter Air X<sup>2</sup>, which is a very simple unit having no more than a pair of RCA audio inputs, for use with your sources' preamp outputs. Like the DS-C101W-G, it can be 'paired' directly with the Navis speakers, and also to a subwoofer. The more expensive unit brings to the party a choice of sources via Ethernet or Wi-Fi. It can be used with ELAC's own Discovery server or a Roon core, supports Spotify Connect, AirPlay and Bluetooth, and has a range of outputs available, on coaxial and optical digital sockets, plus stereo output on RCAs. It can accept content at up to 192kHz/24-bit, and output it either in native form or after processing, while the Air X<sup>2</sup> wireless transmission works at 44.1kHz/16-bit resolution.



high-pass filter, handy should you want to use the speaker in conjunction with a subwoofer. The idea here is that – at least when used wired – the speakers are 'analogue in, analogue out', with no digital intervention in the signal path. It's worth noting that the amps used here are all analogue, including the BASH modules for the midrange and bass, which combine a modulated switching power supply with a conventional Class B amplifier [see Investigation, HFN Feb '15].

Both RCA and XLR inputs are provided on the speaker together with a Low/High gain control. ELAC gives very prosaic advice about its use: 'If when setting your volume level you cannot turn the system up loud enough use the HIGH setting', it says, continuing 'if alternatively you find that the speaker is too loud at a moderate volume control setting then use the LOW option'.

Switching the speaker to wireless input mode allows it to be linked with one of ELAC's transmitters, by pressing the 'pair' button on the speaker, then the transmitter. A light flashes, and then extinguishes when pairing is achieved, while a switch on the rear of each speaker allows it to be designated as left or right channel before pairing. It's also possible to connect an Air X<sup>2</sup>-compatible subwoofer to the transmitter in parallel with the speakers, though with the powerful bass available from the ARF-51, it's hard to imagine when that would be needed.

### THUMPING BASS

The speakers are designed to be used within 30-60cm of rear and side walls, and I used them at the further distance, toed in as suggested to the listening position. If you need to have them closer, that -4dB setting on the bass may well come in handy, while the treble adjustment can

help compensate for heavily furnished rooms or, alternatively, emptier spaces having too bright a sound.

Signal was supplied via a selection of preamps and 'variable output' sources, including a Novafidelity X45Pro [HFN May '19] in 'digital preamp' mode and the preout of my Naim preamp, with brief excursions into wireless operation using the Discovery Connect DSC-101W-G 'hub'.

As a result, the listening fell into two rather distinct sections: an assessment of how well the Navis ARF-51 fared as an alternative to a conventional power amp/passive speakers combination, and as a complete wireless solution. And if you're hankering for an executive summary, the upshot is that the speakers are rather good in the latter role, and nothing short of exceptional when used 'all analogue'.

Indeed, having tried a variety of similar designs in the past, I have to say I was more than pleasantly surprised with these ELAC Navis speakers within the first minute or so of Madonna's *Madame X* album [Maverick/Live Nation/Interscope 00602577620416], where the combination of high levels of intricate detail and thumping bass sees all their qualities much in evidence.

The whispered intro to the album is remarkably intimate, and by the time we get to the tripping rhythms of 'Future' or the heavier disco beats of 'I Don't Search I Find' there's no doubt about the resolution or speed of these speakers. Admittedly I did use the +1dB setting on the midrange to add a shade of bite to the vocal, but that's a matter of personal taste.

These are exceptionally well-integrated speakers across a wide range of musical styles – perhaps they are a little on the smooth and generous side, which is no bad thing for day-to-day listening, but this





**LEFT:** Each of the bass units is reflex-loaded via its own port. The panel, below, includes balanced (XLR) and single-ended (RCA) ins with gain control. EQ adjustment is offered for bass, mid and treble arms of the active crossover

dynamic ability, weight and sheer listenability of what are very fine 'powered' speakers.

### READY TO RUMBLE

Back to a cabled connection and the straight-down-the-line blues rock of Keb' Mo's latest album, *Oklahoma* [Concord Records 888072101913]. Here the weight, speed and sheer resolution of the Navis ARF-51 came together to project a sound into the room that more or less defied this listener not to smile. The music charged along, every instrument easy to hear in the mix – above all, it was a blast. The album sounds gorgeous, from the rootsy feel of 'This Is My Home' to the exuberant 'Put A Woman In Charge', where the ARF-51 more than does justice to that production job.

The weight and power here ensures these speakers can pound out big rock and orchestral music with real solidity as well as they can reveal all the intimacy of a solo instrument lovingly recorded. And when you get both aspects at once, as on Olivier Latry's *Back To The Future*, the last recording made on the organ at Notre Dame de Paris before the fire, the ARF-51's ability to rumble out the pedals of the instrument, have power in reserve for the crescendos and still create that sense of the great church space is rather wonderful. ⚡

is achieved without any expense to clarity or intelligibility. The bravura performances on Rachel Podger's stripped-back reading of Vivaldi's 'Four Seasons' [Channel Classics CCS SA 40318] sing out with an admirable combination of bite and weight. What's more, the sense of focus in the soundstage picture is extremely toothsome, while at the same time the fluidity of the playing is all too obvious.

And wirelessly? Well, the sound becomes a little less open, a bit softer at the frequency extremes and loses some of its excellent focus, thus proving there's no such thing as a free lunch. Yet it still retains the

### HI-FI NEWS VERDICT

If you're going to use the ARF-51 speakers wirelessly, be prepared for some trade-off between cable-free convenience and ultimate sound quality. Fortunately, the speakers themselves set the bar high, so what is an exceptional range of abilities, creating a really rather magical experience in wired, all-analogue mode, simply becomes very acceptable, if not exceptional, when the wireless system is in place.

Sound Quality: 85%



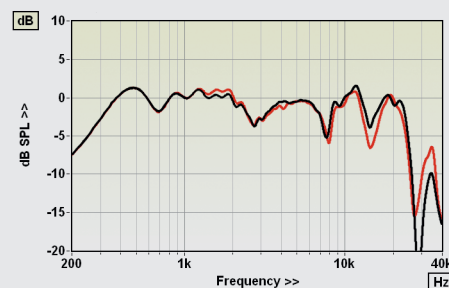
## LAB REPORT

### ELAC NAVIS ARF-51

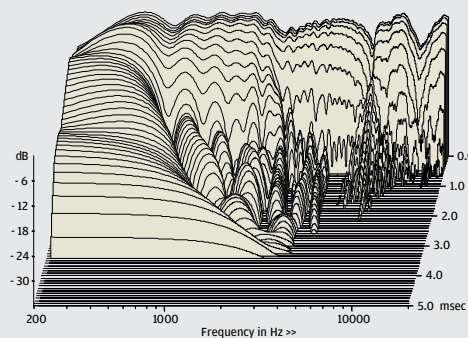
Achieving a smooth treble response is a familiar issue with concentric drive unit arrays. The cone of the midrange section forms a horn for the tweeter, and finding a cone and roll surround profile which provides good control of cone breakup behaviour while also loading the tweeter optimally is a challenge. It's one that KEF has largely met with its latest-generation of Uni-Q drivers, and convincingly demonstrated in its £4000 R11 floorstander [HFN May '19]. Our tests on the Navis ARF-51 suggest that ELAC is also well on the road to meeting this challenge as its treble response is nothing like the rollercoasters we've seen in the past from Tannoy's dual concentric drivers.

However, as the forward frequency responses, measured at 1m on the tweeter axis show [Graph 1, below], it could be smoother. In fact the treble fluctuations account for a big chunk of the  $\pm 3.4\text{dB}$  and  $\pm 3.9\text{dB}$  response errors and, because of their misalignment in the two speakers, to the higher than normal pair matching error of  $\pm 2.1\text{dB}$  over the same 300Hz-20kHz frequency range. Not until the upper frequency limit is reduced down to 7.5kHz does the pair matching fall to within a  $\pm 1\text{dB}$  range.

Also notable is that ultrasonic output declines rapidly beyond 20kHz, although that might be by design. This all assumes that the ARF-51's HF and MF controls are set to their middle positions. The HF control allows the treble output to be cut or boosted by about 1dB over the tweeter bandwidth (above 2.2kHz), and the midrange control provides the same cut/boost over the midrange passband (down to 260Hz). The diffraction-corrected summed nearfield bass response shows LF output to be pretty flat to 45Hz, below which output falls away rapidly. The CSD waterfall [Graph 2] shows a cluster of resonances in the low treble, and another associated with the  $\sim 8\text{kHz}$  response dip. KH



ABOVE: Forward response is not especially flat with a dip at 2-3kHz and notches at 8kHz and 14kHz



ABOVE: Cabinet modes are well suppressed but there are numerous resonances at 1-5kHz and at 8kHz

### HI-FI NEWS SPECIFICATIONS

Frequency Response error (300Hz-20kHz)	$\pm 3.4\text{dB}$ / $\pm 3.9\text{dB}$
Pair Matching (300Hz-20kHz)	$\pm 2.1\text{dB}$
LF extension (-6dB ref 200Hz)	41Hz
HF extension (-6dB ref 10kHz)	25.0kHz / 24.3kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.5% / 0.3% / 0.1%
Dimensions (HWD) / Weight (each)	1025x189x240mm / 21kg