

# EQUIPMENT REVIEW

## Raidho Eben C2 Loudspeakers

By Chris Thomas

**R**aidho's Eben C1, with its quirky, wobbly stand is one of my all time favourite loudspeakers. Its voice is one of musical eloquence, subtlety and cohesion way beyond what its diminutive size would initially suggest. It is a hungry device though and will gobble up and respond to just about all the quality you care to pour into it and this certainly helps in making it, to my ears, a landmark product. Its elegance and economy of design typifies everything a small, high-cost stand-mount should be. But it then goes way beyond that by plugging you straight into the realm of pure musicianship and expression. Hi-Fi-wise, that's where I want to be. But it is very small and, although it produces quite surprising extension and clarity at lower frequencies, it will never have the scale and bandwidth that some situations and tastes demand – and this is where the C2 comes into the equation. It could be



thought of as a C1, with an extra driver, in a floor standing cabinet and certainly has Eben DNA running right through it. That much is obvious when you first hear it. The caveat here is that it is another one of those speakers that takes an age to run-in and it can sound quite ordinary straight from the box. So great are the improvements that come as the weeks and months pass, that this warning bears repeating as often as possible.

This is an elegantly proportioned and quite beautifully constructed speaker. It incorporates a pair of 115mm custom-built drivers, like the one found in the C1, in a two and a half way design where the lower unit is employed as a subwoofer. Raidho's approach with this driver was to remove the magnet from its conventional position at the rear of the speaker and replace it with an array of 10 Neodymium rod magnets, isolated from the minimal chassis by soft iron spacers and sited around the circumference, fore and aft of the voice coil in a patented push/pull design. The chassis is replaced by stand-offs that attach the driver to the 20 mm aluminium baffle sections and the entire superstructure of the unit has been greatly minimised with the area behind the cone being left open. Designer Michael Boerresen wanted no clutter here to eliminate both reflection back into the driver and any thermal or mechanical compression. This thinking has been carried through to the cabinet design where each driver section is rear-vented and these holes in the aluminium rear plate should not be thought of as conventional ports but rather ▶

*“Raidho's approach with this driver was to remove the magnet... and replace it with an array of 10 Neodymium rod magnets.”*

▶ as an extension of the breathing-driver design aims. The cones themselves are an ingenious sandwich construction formed by immersing an ultra-lightweight aluminium cone into a bath and subjecting it to a plasma/electrolysis process that converts two thirds of the surface into ceramic. This is a patented procedure that eliminates the associated problems of consistency of cooling that bedevils all-ceramic cone designs. The result is an extremely accurate shape that provides Eben with the true pistonic driver they envisaged, able to take full advantage of the lack of reflection that the radical rear end shape provides.

Each of these units is mounted on its own baffle/module and slotted into the cabinet. The top driver is essentially a midrange unit while the lower one handles everything below 140Hz, down to about 40 Hz. The large enclosure beneath this is used to load the driver through a series of strategically positioned vents and also contains the crossover. As with other Eben speakers, all internal wiring is Nordost and a single pair of gold-plated WBT terminals provides amplifier connection. The Raidho-built ribbon tweeter is also the same as that found in the C1 and is an edge-constrained sealed unit with an ultra-lightweight membrane weighing only 0.01 gram. This is another exceptional performer with the speed and transparency that typifies good ribbons, but is also notable for a lack of HF beaming that is so endemic in such designs. You will not find yourself locked into a narrow sweet-spot listening position in an effort to hear the speaker's full bandwidth.

Superbly finished in a deep, highly polished burr-walnut veneer for the review pair, the cabinet, sits on the same base as the C1 stand and this means that there is resonance-control technology in the shape of a decoupling bearing system fitted within. The weight of the C2 means that it doesn't sway through the alarming angles that the C1 does when pushed, but there is still compliance in the installation and this is very much a part of the design concept of the Eben C-range. The slim aluminium baffle is 200mm across at the front and the cabinet tapers to the back where it measures a mere 85mm. The manufacturers claim that at 89dB efficiency and with impedance curve that does not fall below 4.5 ohms the C2 is technically an easier proposition for amplifiers than its baby brother. When you first install them they sound more like 87-88 db but it seems that efficiency increases with use and although the impedance may be somewhat benign, this is another one of those speakers that will punish mediocrity in partnering equipment. They reward excellence and the results, when you provide it, are absolutely stunning. But there is a meticulous installation process to be gone through first that involves three phases to be undertaken with music and perhaps supplemented with a good test disc. Rear wall spacing, as they like to operate in free air, distance apart and then toe-in are all critical and should be progressively measured. Don't be surprised if the listening angles take a few days to finalise. A word of advice is to start with them facing directly forward and introduce just a degree or so at a time.

Initially you are struck with both the lack of any cabinet in the sound and the finely etched sonic picture of the soundstage. Michael Boerresen's ambition to free the driver's from reflection and internal energy storage is surely the reason for the way the music has so much vitality and refuses to be constrained within the boxes. Close your eyes and point to where the instruments are located and you will be amazed at how broad, free and full-scaled the view of the music is. Each instrument or voice has a palpable sense of dynamic freedom about it and this gives them a really solid and exciting sense of vitality and movement.

But this is not a speaker that adds any superfluous flesh throughout its bandwidth. Overall it shares certain leanness with the C1 and you can feel this, especially in the bass. An upright string bass or cello will never have the full, rich and weighty presence that you would get with the big paper cone of say, a Wilson Duette. The bandwidth is there but the Eben concentrates its energies on speed, focus and clarity. This makes them one of the few floor-standing speakers I have heard that will sit quite happily in smaller rooms where a high quality stand mount might be the initial and obvious consideration. Having mentioned the word speed in relation to the C2 I think that it is at the heart of much that they do so well. Not only do they gain energy quickly but they lose it just as impressively, leaving no sonic trace. The backgrounds against which the music plays is remarkable for its blackness, bringing an added feeling of dramatic contrast. But there are also the rhythmic benefits that such sensitivity allows and there are few speakers as 'to the point' where tempo is concerned, as the Ebens. I was listening to *The New Bossa Nova* by Luciana Souza when I started to think more deeply about the whole flavour and nature of Bossa Nova music. The combination of the swaying rhythms, counter-pointed by gently suggested offbeat chord shifts from the guitar were all so subtle and understated that it intrigued me. That distinctive vocal style, free of big dynamic swings and overt expression, sat just above the brushed snare and washing cymbals and the more I listened the more I became aware that the Ebens were superb at revealing an incredibly ▶

► complex collaboration of elements. Her lyrical approach, which I had heard sound so flat on other systems, now felt full of expression and were sung with a care and precision that I hadn't fully appreciated before. She uses her approach to long and short phrasing as a link in time that spans the tempo and with subtlety and colour changes she pushes gently at the lyric, sitting its emphasis in different places on and around the beat. This *New Bossa Nova* is a sensibility with a communicative edge that is completely dependent on the brilliance of her performance. With some speakers, you just sit back and watch the music happening in front of you. The Eben, when pumped full of potential, is an open window that lets you walk right into the middle of the mix to have a look around and explore.

Like the C1, their top to bottom coherence is strikingly good and they really have no obvious preference when it comes to musical genre. Those who are looking for serious chest-cavity rattling levels of bass energy will certainly notice the lack of ultimate low frequency weight and power, though personally, I never found it a problem at all. And while I am looking under stones for criticisms, I might also mention that perhaps they could do with a little more air at high frequencies and a touch more obvious presence up here might be nice too. But these are also remarks that I made about the C1 and are more to do with personal taste. At the risk of labouring another point I must also say that the requirements to push the speakers to the heights they can achieve means that the electronics must be of notable quality but, perhaps even more importantly, so must the quality of installation and set-up and this is something I hope to return to in issues to come.

When I get involved in a very fine and explicit recording like 'A Remark You Made' by Jerry Douglas from his *The Best Kept Secret* album, I can't help but think that the Eben C2 is one of the most engaging small floor-standing designs I have heard. They have a near perfect tonal balance, so the bite and fabulous tonal warmth of the slide guitar alongside the violin, played together in unison over a string bass, feel like voices speaking to you. Three textural, fretless instruments brimming with harmonics and shimmering overtones, all superbly controlled in space and time by the C2 are just one of one of the joys

## TECHNICAL SPECIFICATIONS

**Type:** 2.5-way floor standing.

**Drivers:** 2 x 115mm Raidho aluminium/ceramic driver, 1 x Raidho sealed Ribbon

**Freq Resp:** 40Hz-50KHz

**Sensitivity:** 89dB

**Dimensions (HxWxD):** 1160x200x520mm

**Weight:** 50.5Kg (2)

**Finishes available:** Piano Black, Walnut Burr and all possible paint colours (to order)

**Price:** £13,995 per pair

**Manufactured by**

Raidho Acoustics

**URL:** [www.raidho.dk](http://www.raidho.dk)

**Imported by**

Highend Cables

**Tel:** +44(0)1775 761880

[djenvirogroup@btconnect.com](mailto:djenvirogroup@btconnect.com)

of this speaker. They have a realisation and resolution of playing technique and ambient instrumental detail that makes the music more meaningful and emotional and for me form such an integral part of the Eben appeal.

Since I have been using the C2 exclusively for 3 or 4 months now, they have improved, as has my appreciation of what they do so well. Their freedom of presentation and extremely fine resolution, coupled with enough bandwidth to give them a real sense of scale and presence mean that, except for very small rooms, they are going to fit in many of the situations that a C1 would. Don't forget that they take up the same amount of floor space. But they are also happy in larger rooms. Their feeling of intimacy, response to micro-dynamic shifts and the explicit nature of their voice brings you close to the performance and the more you use them, the more delighted you will be at how much of the music and what lies behind it, they are showing you. The C2 is an agile conjuror of a speaker, able to keep all the balls the air at the same time. It is often an education to live with and I can do nothing but thoroughly recommend it. +

