

The Kaiser Chiara Different – by design!



Most loudspeaker designers will tell you that the starting point for any design lies in selecting the drivers, cabinet volume and crossover characteristics – but at Kaiser Acoustics, we beg to differ. These things do matter, but focussing on them ignores entirely the single most fundamental component of all, the one that ties those others together into a single, coherent whole – the cabinet. After all, we talk about speaker systems for a reason, and any system is only as strong as its weakest link.

Why You Really Do Need To Think Outside The Box

In the world of high-performance audio, there is a long tradition of paying lip-service to fundamental problems – and then simply ignoring them. Room acoustics is possibly the classic example; what happens to the energy that is encompassed by our loudspeaker cabinets is another. We all know what happens when you overdrive a poorly behaved room: the image collapses, the music becomes muddled, you lose timing, clarity and intelligibility. The more energy you throw into the room, the worse the problem becomes – which is why you hear so much simple “girl and guitar” music at shows and in dealers’ sound rooms.

Now stop for a second and consider the other side of the drive unit. There’s just as much acoustical energy, rather more mechanical energy and a lot less volume and cabinet structure to deal with it. Think what THAT means for the music your speakers make. And just to really make your day, remember that, the smaller the room, the more obvious the problems – and guess what, that’s true of speakers too.

Which is why designers use shape, materials and construction to combat the problem. What they don’t do is think beyond the cabinet itself. To them, the volume is the cabinet, but at Kaiser Acoustics, it is only the starting point.

The Technically Intelligent Alternative

Kaiser Acoustics has been producing high-technology engineering solutions in wood and wood based materials for over 40-years. So, looking at the Chiara, it’s no surprise to see the complex, CNC machined cabinet, with its non-parallel, variable thickness walls and acoustically critical shaping. What’s not so apparent, is that the entire enclosure volume is machined from a resin/birch-ply composite, formed under enormous pressure and called

Tankwood, because that’s what they build from it – tanks! Yet, whilst the acoustic parameters of the Chiara speaker system are undeniably compact, the mechanical solution to the design’s challenges is both technically and physically extraordinary. Despite appearances, the Chiara’s elegant pedestal base is not a separate stand; it’s an integral part of the cabinet structure, creating a complex and sophisticated energy sink for the enclosure itself. Inside the vertical element are no fewer than three variable path acoustic labyrinths, allowing the stand to not just offer an exit path for energy from the speaker enclosure, but a genuinely effective way of dissipating that energy in a musically non-harmful way. So although the internal volume is constrained by the acoustical demands of the system, the cabinet as a whole extends beyond those physical limitations to provide an optimized mechanical structure.

In fact, it’s one very clever solution to the problem of making a very small speaker sound much bigger than it is. The end result is far more musically satisfying and natural – precisely because the range of musical expression and communication isn’t constrained by the speakers’ small internal volume.

Finally Thinking Beyond The Box

The Chiara’s sophisticated cabinet uses engineering, materials and technology to deliver the finest possible baseline for compact loudspeaker design. Now, when we add the finest drive units we can find, select the optimum crossover topology and components, and engineer the final design to incorporate the same thinking and attention to detail that we lavish on the cabinet, you finally hear what those components are really capable of. The result is a very different loudspeaker, full of natural, unforced musical expression and detail. This is definitely audio with a difference...



The Chiara Difference

Technical Details

Drive Units

Tweeter: The high-frequency unit selected for the Chiara is a specially modified version of the superb Mundorf Air Motion Transducer design, carefully recessed and time-aligned into the Chiara baffle. An acoustically transparent fabric shield protects the incredibly light and fragile transducer from accidental damage, without impairing its legendary performance.

Bass-Mid Driver: The all important mid-band is handled by the 150mm Scanspeak Illuminator, a high-tech design that, like the cabinet, uses traditional materials. The cone is a laminated and ribbed, paper design, coupled to an incredibly powerful, under-hung NdFeB magnet assembly. The result is a driver that combines both remarkable sensitivity and control, with remarkable bandwidth and natural musical colour and expression.

ABR: The rear facing 185mm ABR is a high-quality, critically mass-loaded version of the Illuminator bass unit that allows greater control over the complex air mass issues that can otherwise plague small loudspeaker enclosures.

Crossover

The Chiara's crossover is a masterful combination of minimalist theory and the highest quality execution. Not only is the bass-mid leg run wide open, relying entirely on the superior mechanical performance of the drive-unit (and its superior mechanical termination by the cabinet) the high-pass element employs only the highest quality Mundorf/Dueland Cu Cast components, all hard-wired with highest quality silver alloy cable. The topology itself

is unique, based on not just output level, but dispersion through the transition point.

Once carefully hand built, the entire crossover is then "potted" in resin to protect its critical components from mechanical energy. But that's not all. By including an EMI absorbent material in the resin, we significantly reduce RFI/EMI affects on the crossover, as well as creating an RFI sink to prevent the speaker acting as an entry point or aerial, allowing EM energy to contaminate the rest of the system. Finally, the potted crossover is coupled to its own dedicated acoustic labyrinth, thus preventing it from becoming a single resonant lump.

Cabinet

As we've already described, the cabinet "head" is built entirely from Tankwood, with no parallel internal faces or edges, and carefully varied wall thicknesses. The result is a homogenous structure, free of gaps or voids supported for cables or terminals.

The Chiara's "stand" is permanently connected to the speaker, acoustically coupled to the enclosure in order to guarantee the most effective dissipation of stored energy. Virtually the entire vertical element is filled with three, sophisticated acoustic labyrinths that don't just dissipate unwanted mechanical energy, they prevent it travelling along your speaker cables and impacting the fragile output stage in your amplifier.

Nor are the details overlooked in this big-picture design. From the careful selection of the internal wiring and the low-mass single-wired binding posts, to their placement at the base of the stand for simple, unobtrusive cabling, every aspect of the Chiara's relationship to its musical and domestic environment has been considered.

Bandwidth	40Hz – 30kHz ±3dB
Sensitivity	87dB@2.83V
Impedance	4 Ohm
Crossover Point	3100Hz
Recommended Power	150 Watts
Connections	Single-wired
Height	1160mm
Width	295mm
Depth	470mm
Weight	34kg ea.
Finishes	A wide range of semi-gloss paint and veneer options, with high-gloss finishes also available. Stand element semi-gloss colour coded as standard. Baffle, colour coded wood veneer or carbon fibre.

Chiara

The Kaiser Acoustics Loudspeaker range is available in the UK from:

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