

# Kaiser Kawero! Classic

by Paul Messenger

**T**he third Kaiser Kawero! model that this reviewer has encountered, this Classic is the top – and I believe the original – model in Kaiser Acoustics' three-strong Kawero! range. It has similar overall dimensions to the Vivace I examined back in 2011, but its drivers look rather larger, and it weighs an impressive 17 per cent more.

Kaiser's UK distribution is handled by Bath dealer, The Right Note, which also happens to be the leading UK dealer of Vertex AQ's whose technologies Kaiser loudspeakers use extensively. Pricing is complicated by a wealth of options, some of which were already fitted to our review sample. The 'base UK price' is an already hefty £40,784 (inc VAT), while the upgrade options include special veneers (£1,766), a carbon fibre front baffle (£1,545), piano gloss finish (£7,729), and

Kawero! special wiring (£5,778). With select upgrades, our samples therefore cost £50,279. Moreover, there is a special 'Brilliant Edition' version, which has an external crossover that features similar network components, but incorporates extensive Vertex AQ anti-vibration and anti-RFI treatments.

The standard veneers include maple, birch, American and European cherry, American and European walnut, sycamore, and wild service tree. Our review samples had a piano gloss finish on a 'special' veneer, a group which includes: mahogany crotch, macassar-ebony, makore pommele, myrtle, walnut, yew, maple and madron burls, santos palisander, curly birch, tineo, ziricote, and zebrano. In addition to being beautifully veneered and finished, the cabinetwork for the Kaiser Kawero! has acoustic advantages in that it uses panels that will tend to 'defocus' the frequencies of internal standing waves.



Whereas the Vivace had a rather bass-heavy balance in my room, the smaller Chiara stand-mount with its integral stand proved a rather better overall match in 2013. Happily, this Classic seems closer to the latter than the former. Although its bass is unquestionably strong, experience has shown that some bass excess is entirely acceptable providing it's clean, which it certainly is here.

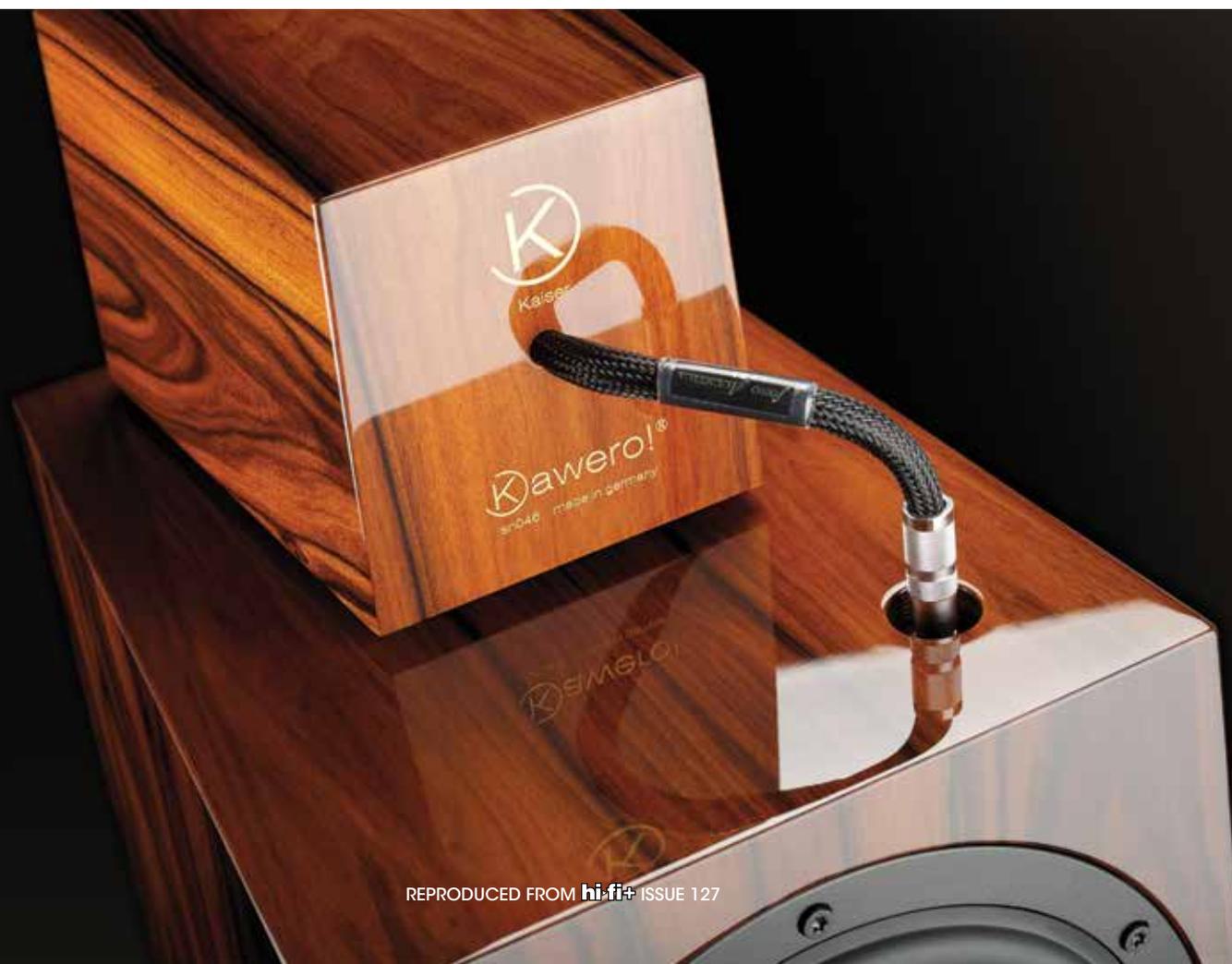
Kaiser itself is a family business of some size situated near Untergriesbach in the extreme south east corner of Germany, which specialises in all manner of advanced acoustics and woodworking. However, the Kawero! speaker designs have been created by Kaiser's acoustics expert Rainer Weber, who is actually based in the city of Regensburg, some 150km north of Munich, where he has a specially constructed high class listening facility. Incidentally, the name Kawero! is apparently an amalgam of the first two letters of the names of three guys who were responsible for developing the original design (the 'we' in the middle being Weber himself, of course).

The Classic might have quite modest dimensions, but it does feel inordinately heavy. In fact, the speaker alone weighs a considerably 99kg, to which was added the extra 35kg or

so of flight case was used to transport our review samples direct from Germany. Given that total weight, it came as no great surprise to see that its two wheels had left marks on the parquet flooring of my hall after we'd unpacked the beasts! The reason for the considerable mass is that this enclosure (and its extra internal stiffening) is made from something called 'tankwood' – the German word is 'panzerholz' – which is a wood-based laminated material that has been compressed under high temperature and pressure, and filled with resin, so that it retains a fundamentally fibrous nature, but adds considerable density by excluding air and moisture.

Panzerholz is only available from one or two sources in Germany, and is reckoned to match the stiffness of aluminium, with much improved natural internal damping. It sinks rather than floats in water, and is used to make anything from moulds to bullet-proof limousines. I know of no other loudspeaker that uses this material, one reason certainly being the difficulty (and cost) of machining something that is so dense that it rapidly wears out metal tools.

Each unit arrived equipped with and sitting on three Stillpoints Ultra SS feet; unfortunately part of one of these was ▶





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- ▶ missing, so alternative Stillpoints Ultra Bases (also supplied) were temporarily fitted instead. After a few days the postman brought the missing bit and the Ultra SSs replaced the Ultra Bases (not without some difficulty!).

The components that make up the Kaiser Kawero! *modus operandi* are deceptively complex. The main enclosure houses what appears to be three cone-type drive units. However, only one (active) bass/mid drive unit is mounted on the front panel, while the upper one of the rear is actually a passive auxiliary bass radiator (ABR), which is acoustically coupled to that bass/mid driver and effectively reflex loads it. The bass-only driver is also located on the rear, and is loaded by a port concealed within the base, alongside the bulk of the enclosure.

A tweeter sits in its own little enclosure mechanically detached from the main enclosure, allowing for some fore'n'aft movement to time-align the tweeter with respect to the main unit according to the favoured listening distance. This little head unit houses a RAAL ribbon tweeter – a top quality device made in Serbia – and connects up to the main unit using a short integral RCA/phono-terminated cable.

The bass radiation pattern is complicated by the fact that the bass-only driver – a 250mm sourced from Danish operation AudioTechnology – operates up to (and beyond) a first-order roll-off at a nominal 900Hz. This considerably overlaps with the bass/mid driver which rolls in via a fifth order high pass filter operating at 60Hz (the fourth-order acoustic ABR, plus first-order electrical). This means that the bass end distribution patterns will change with frequency – it's a monopole below 60Hz, a bipole radiator initially above 60Hz, gradually converting

into a dipole on the way up to around 300Hz. Some flexibility is also allegedly available by reversing the polarity of the bass drivers, which will affect both the distribution and the in-room measured bass response – I say allegedly, as the connecting cables were too short to allow this to be tried in practice.

The 250mm bass driver has a very rigid Rohacell sandwich cone (embedding the Rohacell foam within carbon fibre paper), driven by an overhung 76mm voice coil. It has a  $\pm 9$ mm linear displacement (with plenty in hand beyond the linear region), and a hybrid voice-coil former that uses Kapton with no eddy currents for the first  $\pm 3$ mm, and aluminium thereafter. The magnetic field is extraordinarily linear, ensuring very low nonlinear harmonic and intermodulation distortions. Essentially this is controlled by its electrical parameters, the free air resonance is at 19Hz, and a special SteinMusic Maestro violin lacquer is applied to the cones.

The front-mounted bass/mid driver also comes from AudioTechnology, and is a customised variation on its 180mm C-Quence 18 model theme. It has a 120mm diameter polymer cone and a 50mm underhung voice coil on an aluminum former that has been specifically engineered to avoid excessive stiffness. It's fed via a 5th-order highpass filter (comprising of a 4th-order passive radiator and 1st-order electrical), and operates from 60Hz up to 5.5kHz, whereupon a special elliptical filter (1st order and then infinity slope) takes care of the output. This front-mounted bass/mid unit is loaded by a 200mm AudioTechnology passive radiator on the rear, which uses a similar cone to the bass driver.

The RAAL 70-20XR ribbon tweeter sandwiches a small amount of damping oil between two layers of aluminium foil. The ribbon is fed from an amorphous core transformer, made in such a way that no attenuating resistor is necessary. The transformer primary uses Echole silver-gold-palladium wire, and the unit operates from 5.5kHz to 60kHz via a 3rd-order high pass filter. The crossover network uses a mixture of high quality Mundorf and Duelund inductors and capacitors.

I put the Classic through my usual in-room, far-field, averaged measurement regime, and found that although this speaker doesn't aim for the flattest response, it remained within the bounds of acceptability, showing good ▶

- ▶ basic extension down to below 20Hz, and some mid-bass emphasis at 40-100Hz. Output is a bit light in the upper bass (130-500Hz), then is rather strong in the main midband 500Hz-2kHz, but is smooth and even thereafter.

The Classic certainly more than met the maker's specification for 92dB sensitivity. However, the impedance drops to around three ohms at 90Hz, so rather more than an extra Watt will have been responsible for creating that sensitivity figure.

Even with a tonal balance that is deliberately pointed away from a ruler-flat frequency response on what seem almost ideological grounds, there's absolutely no avoiding the fact that Kaiser's Kawero! Classic delivers an exceptionally fine overall sound. 'Smitten' was the word that first came to mind when listening to them, and the word stood its ground for the three weeks I was able to keep hold of them.

Indeed, while we were still setting up the speakers, and The Right Note's Jeremy Baldwin was actually checking the tweeter alignment, my wife came into the room to hear the soprano that happened to be doing her thing at the time, simply because she sounded so real and interesting.

The panzerholz is at least in part responsible for delivering an exceptionally quiet enclosure signature here, which results in an unusually low noise floor and hence a very wide dynamic range. In this regard it's as good or better than either aluminium (which I tried quite recently) or indeed my structural wall (through which I recently mounted a vintage Goodmans Triaxiom full-range 300mm driver). Panzerholz is at least as good and probably rather better than those already impressive alternatives, though it is of course considerably more costly than either.

Crucially, of course, minimising background noise and 'hash' is the core technique that underlies Vertex AQ's approach to hi-fi accessories and components. The fact that the two companies have a common direction is unquestionably very relevant, and as a consequence the result is rather different from the norm. There isn't the sort of dynamic exuberance one sometimes finds with high sensitivity horn-loaded designs, but the dynamic range is arguably still more impressive here, as is its ability to maintain this wide dynamic range even (one could say especially) when the volume is turned up to high levels.

Indeed, although it works fine at modest levels, even delivering speech clearly and explicitly, the Classic favours 'a bit of wellie'. As the volume was increased, dynamic vigour hangs on in with impressive enthusiasm and any tonal idiosyncracies from the deliberately non-flat response that might have been more noticable at lower levels seem to fade into the background. Even as I began to approach the limits

## TECHNICAL SPECIFICATIONS

### 3-way loudspeaker (reflex loaded midrange and woofer)

**Bandwidth:** 25Hz to 60kHz

**Sensitivity:** 92 dB (2.83V@1m)

**Impedance:** 6ohms nom., 4ohms min.

**Size (WxHxD):** 33x121x49cm

**Weight:** 99kg

**Price:** from £40,784 (tested at £50,279)

**Manufactured by:** Kaiser Acoustics

**URL:** [www.kaiser-acoustics.com](http://www.kaiser-acoustics.com)

**Distributed in the UK by:** The Right Note

**URL:** [www.rightnote.co.uk](http://www.rightnote.co.uk)

**Tel:** +44(0)1225 874728

of the NAP500 amplifier's power delivery, the Classic held together admirably, and simply demonstrated its magnificent dynamic range as it got louder.

The Classic's deliberate tonal balance decisions inevitably lead to a degree of coloration, but such coloration is an easy problem to ignore in this case, because the timing here is truly excellent, defining leading edges with unusual accuracy and rendering any errors of tonality largely irrelevant.

The relatively slim front view and the decoupled tweeter in its tiny sliding head unit all contribute to truly outstanding stereo imaging. The front-mounted 180mm driver handles the bulk of the audio bandwidth in any case, from the mid-bass right into the lower treble, so in some senses the Classic behaves like a single full-range driver system. With careful setting-up, the RAAL tweeter in its tiny, but reassuringly hefty, movable, and decoupled enclosure, can help refine the system time alignment at the extreme top end.

I felt absolutely no inclination whatsoever to try any of the several alternatives that are available out there while using the Kawero! Classic. There's no avoiding the Classic's unquestionably high price tag, which will certainly rule it out for many potential customers; but for those that can afford it, this loudspeaker has plenty going for it. It certainly looks good, and delivers the sonic goods to match, especially for those who like to play their music at high levels. It might not have the most neutral tonal balance, but that's no great hardship in view of the excellent timing and outstanding dynamic capabilities and range. Now that they have gone, I miss them, and that's a very rare experience for me. +