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# Vivid Audio Kaya 90

If you've admired Vivid Audio's design philosophy but balked at its styling, the new Kaya range is for you  
 Review: **Keith Howard & David Price** Lab: **Keith Howard**

**A**udiophiles can be a conservative bunch. Me, I sometimes feel that if I ever see another wood veneered box loudspeaker I'll attack it with a chainsaw but others of you, I know, prefer the old aesthetic, or at least a modern take on it, to curved, organic cabinet forms – especially if painted in primary colours. For a company like Vivid Audio, which appreciates and exploits the benefits of curved cabinets in respect of structural stiffness and clean diffraction behaviour, this is a problem.

So when the flamboyant looking, range-topping, banana-coloured Giya G1 Spirit featured on our January cover this year you could almost hear the collective intake of breath from audiophiles who would never countenance such an aesthetic abomination in their home. For every person who loves the novel, like me – especially when it makes eminent acoustic sense – there are others, perhaps many others, who shy away.

## A MATTER OF STYLE

Nobody is going to describe Vivid's new Kaya range (kaya means 'home' in the Zulu language) as conventional or conservative in appearance, but the styling is a little toned down, a little less in your face than with the Giya models. More homely, indeed, if your home is not a minimalist style statement. Which will mollify potential buyers who felt with the Giyas that they were having a bad trip in a Barbara Hepworth retrospective.

Top of the Kaya hierarchy is this, the £21,000-a-pair floorstanding 90. It's a six-driver/three-way design with four side-mounted woofers toward the bottom of the cabinet [see boxout, p37] and, near the top, a forward-firing cone/dome midrange and, just above it, a dome tweeter. All six drivers have aluminium alloy diaphragms. Others in the five-model range are the four-driver/three-way 45 and two-driver/two-way 25 (both floorstanders, £15,000

and £8500 respectively), the two-driver/two-way S15 standmount and three-driver/two-way C15 centre speaker. All have curvy – but restrained-curvy – moulded composite cabinets comprising glassfibre/vinyl ester resin skins either side of a polymer foam core. In the 90 the cabinet is moulded as three parts – left, right and baffle – which allows CNC-machined composite internal partitions and bracing to be inserted before the entire enclosure is bonded together.

## DESIGN LEGACY

In the tradition begun by designer Laurence Dickie's B&W Nautilus and continued and refined in Vivid's products, all three frequency ranges in the 90 – bass, midrange and treble – benefit from the use of exponentially tapered tube absorbers that dissipate rear radiation from the drive units to suppress internal cabinet reflection and resonance. In the 26mm D26 tweeter the absorber extends straight out behind the magnet assembly, and in the new 100mm C100SE midrange driver (which has a 50mm voice coil and radial magnet)

the absorber is curved to fit within the shallower enclosure. In the bass section, with its four 125mm drivers (50mm voice coils), the absorber is designed to be effective from sufficiently above the

port tuning frequency that it doesn't interfere with the reflex loading of the drivers but still provides effective absorption of internal resonance.

To avoid a step-change in off-axis response the tweeter is recessed within a shallow waveguide which matches its directivity to that of the midrange

**RIGHT:** The cabinet curves remain – as do symmetrical force-cancelling bass drivers and reflex ports – but the visual impact is less extreme than with earlier Vivids. There are three standard colour options: this one is Oyster Matte

'There was a collective intake of breath from audiophiles'



## NEWTON'S CREDO

Isaac Newton had no inkling of what a loudspeaker is, of course, but his three laws of motion – particularly the second and third – nevertheless have direct application to loudspeaker design. The second law tells us that to accelerate a heavier mass (such as a heavier loudspeaker diaphragm) we have to push it proportionately harder than a lighter mass, and the third law – ‘every action has an equal and opposite reaction’ – says that whatever we push pushes back. As the motor of a moving coil drive unit forces its diaphragm forward, so the stator is forced equally hard backwards, an effect referred to as magnet reaction. It’s this which explains why the Kaya 90, in common with the Giya models, has a symmetrical arrangement of side-mounted woofers and ports. The motion of the cones is in opposition on either side of the cabinet, and so is the alternating flow of air out from and back into the reflex ports. As a result, overall reaction force on the cabinet is cancelled. Adding a cross-brace between the driver magnets on either side seals the deal, cancelling the reaction forces at source and stifling vibration and resonance within the driver baskets and enclosure.

unit at crossover. The grilles covering the four bass drivers and midrange are held in place by magnets and are easily removed if desired. Standard colours are the pictured Oyster Matte, Pearl White or Piano Black. Custom automotive finishes can be specified for a £2100 premium.

### SMOOTH CUSTOMER

In common with bigger ‘Vivids’ the Kaya 90 has a seamless sound that is tonally ‘well lit’ but also deliciously smooth and refined. It has a large soundstage that goes far wide and far back, without pushing the sound down your throat. It has deep extended bass, and sparkling highs – and best of all, fun to hear.

Like every great, high-end loudspeaker, the Kaya 90 has its own essential nature – clean, nuanced and detailed, it proved lovely to my ears but I can imagine listeners seeking a super-showy ‘character loudspeaker’ might be less enamoured. Instead, the Kaya 90 unpacks recordings in an even-handed and joyous manner.

Kicking off with some classic post-bop jazz in the shape of Art Pepper’s ‘You’d Be So Nice To Come Home To’ [*Art Pepper Meets The Rhythm Section*; Original Jazz Classics

0025218633826], and the lead saxophone was beautifully carried. Dripping with harmonic detail, it sounded breathy yet finely textured and with a natural rawness. Even with the instrument at full tilt, Vivid’s midrange driver never cried out, allowing me to enjoy the sax at its most expressive. Also, thanks to the rather ‘period’ stereo mixing, I could take in all of the drum kit on the other channel, with a lovely metallic sheen to the ride cymbal work, and a natural thwack to the snare drums. Things sounded truly tangible and atmospheric, yet never irked or grated.

When it comes to bass, Vivid’s designer, Laurence Dickie, has obviously gone for evenness and extension over bluster. So the result is a very controlled and well damped bottom end that doesn’t present itself in a particularly muscular or imposing way. Goldie’s ‘Inner City Life’ [*Timeless*; Metalheadz 828 614-2] confirmed this as bass wasn’t as engulfing as you might expect from a such a ‘big banger’.

Yet, with dizzyingly fast looped hi-hats, powerful rim-shots and speeded-up snare rolls, it was impossible to stop my feet tapping with ‘Timeless’. The Kaya 90 seemed to revel in it all, skilfully conveying the interaction of machine-gun percussion and the deep bassline, overlaid by a thick swathe of gliding analogue synthesisers.

### LIGHT AND LITHE

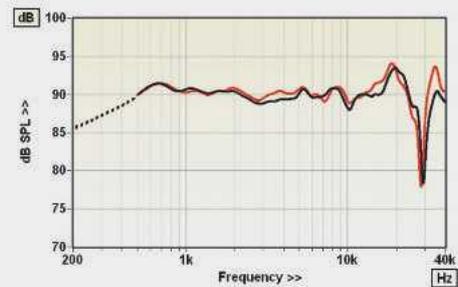
This is a fast-sounding speaker, one that’s deft, fleet of foot and able to pick up its skirts and run – so to speak – when called upon so to do. But it doesn’t spray hard-edged detail at you, for it doesn’t deliver this excitement by being tonally edgy or harsh. Those light drive units offer excellent transient response and a lithe sound that’s able to really capture the rhythmic intent of a song. I’ve rarely heard this mid-90s 



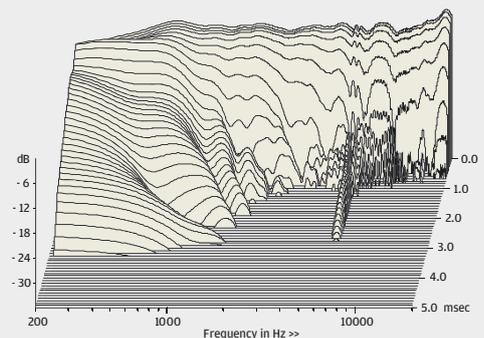
## VIVID AUDIO KAYA 90

One of the functions of our lab reports is to check the veracity of manufacturers' product specifications. That assumes, of course, that there are specifications to check – which was not so with the Kaya 90. At the time of writing (mid-July) neither the Vivid Audio website nor the Kaya Series brochure carries a single specification for the new range (despite the former saying the latter includes 'Full specifications') – not even dimensions, which I had to approximate for the 90 using a tape measure. Pink noise sensitivity, averaged for the review pair, was 90.4dB – a good result but at the cost of punishingly low impedance. The minimum modulus of 2.4ohm suggests a 3ohm nominal specification, and impedance phase angles are high enough to drive the EPDR (equivalent peak dissipation resistance) to a very low minimum of 1.1ohm at 297Hz.

So the Kaya 90 presents a significantly tougher load to its amplifier than the top-of-the-range Giya G1 Spirit [HFN Jan '18]. Forward frequency responses, measured at 1m on the tweeter axis [see Graph 1, below] show an essentially flat trend, with the barest hint of a presence band dip. Only the peaked up extreme treble spoils the picture and increases the response errors to  $\pm 2.8\text{dB}$  and  $\pm 2.6\text{dB}$  respectively (500Hz–20kHz). Pair matching over the same range is  $\pm 1.2\text{dB}$ . Incidentally, you can ignore the roll-off below 500Hz which is an artefact of the measurement [dashed traces in Graph 1]. Applying diffraction correction to our nearfield bass measurement is difficult because of the curvaceous cabinet, but we estimate an extension of 39Hz (–6dB re. 200Hz). The resonance at about 6.5kHz visible in the CSD waterfall [Graph 2] was only present in one of the review pair. KH



ABOVE: Forward response is essentially very flat in trend, the extreme treble lift inaudible to many



ABOVE: Cabinet modes are minor and the low-level ~6.5kHz resonance only appeared in one speaker

**LEFT:** As with other Vivid models the three-way/fourth-order crossover is accessed via a single pair of 4mm terminals – so no bi-wiring or bi-amping

the musical event. Individual solo instruments such as flutes or oboes were etched in space with obvious precision, allowing me to effortlessly pinpoint them in the auditorium.

### MEMORABLE MOMENTS

This marvellous recording also showcased the Kaya 90's hear-through midband in all its glory and where everything that's good in this loudspeaker comes together to make for memorable moments. The wiriness of the violins, the rasp of the trombones and the reedy shimmer of the flutes were all a joy to behold. Hearing right back to the rear walls of the hall, there was a marvellous sense of space – thanks in no small part to the excellence of this speaker's extended and open treble performance.

Throwing a recording of dramatically different quality into the mix, and The Jam's 'Down In The Tube Station At Midnight' [All Mod Cons; Polydor SNAP 1] showed the same strengths. It was a gripping listen, this elegant floorstander delivering an extremely insightful sound that scythed through all the mush on this grungy late '70s new wave classic. Most loudspeakers seems to have a knack of giving lead vocalist Paul Weller a cold, but there was no nasality here. At the same time, it carried the backing vocals – usually buried well behind the multi tracked guitars – with unexpected yet effortless clarity. ☺

### HI-FI NEWS VERDICT

Striking looking – if not to everyone's tastes – beautifully engineered and possessed of a wonderfully open and engaging sound, it's hard not to like the new Kaya 90. It is recognisably a Vivid loudspeaker, yet moves things on with aesthetics that blend into a wider variety of rooms. Its light, breezy character is also a breath of fresh, musical air in a high-end scene where strong tastes can dominate.

Sound Quality: 89%



drum and bass track sound so enjoyable. Although the Goldie album is a modest production, the Kaya 90 still managed to unearth a capacious soundstage. Indeed the way it recreates stereo images is typically something to behold.

On the end of a serious power amplifier – a Constellation Taurus in this instance [HFN Dec '17] – this loudspeaker owned the room. Objects appeared in the stereo mix clearly focused and correctly located. This is not atypical of Vivid loudspeakers, and it shines out when you feed the Kaya 90s a recording the quality of the opening of Mahler's Symphony No 4 [Budapest Festival Orchestra/Iván Fischer; Channel Classics CCS SA 26109].

Here they amazed with a truly '3D' rendering of the orchestra, with excellent stage depth and a real sensation of being immersed in

### HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	90.8dB/90.4dB/90.2dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.4ohm @ 264Hz 27.5ohm @ 21Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	–60° @ 48Hz 48° @ 343Hz
Pair matching/Resp. error (500Hz–20kHz)	$\pm 1.2\text{dB}$ / $\pm 2.8\text{dB}$ / $\pm 2.6\text{dB}$
LF/HF extension (–6dB ref 200Hz/10kHz)	39Hz / >40kHz / >40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.2% / 0.2% / 0.1%
Dimensions (HWD) / Weight (each)	1210x350x520mm / 25kg