

+ Mit Musik-CD

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AUDIO

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Harbeth 40.2: Der musikalischste Monitor aller Zeiten

Besser geht's nicht!

Von Genies entwickelt, exklusiv bei AUDIO getestet:

- ➔ Transcription Reference: die neue Vinyl-Klangdimension
- ➔ Kii Three: aktiv, digital, wireless – und unschlagbar präzise



ENGLISH TRANSLATION



Moon Neo 280D: perfekter Streamer und D/A-Wandler



Melco N1-A: Kann eine NAS den Klang verbessern?



ModWright KWI 200: Kraft & Kultur perfekt kombiniert



Wertvoller als Gold: MC-Tonabnehmer von 1600-6000€

Österreich € 7,60 - Schweiz sfr 13,70
Spanien € 8,95 - BeNeLux € 8,05
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kii
THREE

CLOSE TO PERFECTION

With its Three, the new entrant Kii Audio has developed a fully digital active speaker that will stand the speaker scene on its head. This sleek bit of furniture turns heads with its uncanny authenticity. It's remarkably adaptable, too.

■ Test: Wolfram Eifert

TEST

Active loudspeaker with digital bass cardioid

Kii Audio Three

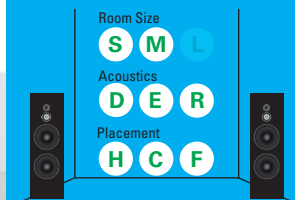
10 000 Euro

As progressively cleaner electronics and passive crossover networks post ever diminishing gains in the sound quality that comes out of the speaker, actual breakthroughs have been conspicuously absent lately. This is due in no small part to consumers actively avoiding loudspeakers with integrated electronics, even though their inherent benefits have been quite well known for years and we reviewers have taken every opportunity to point the way.

No carmaker would dream of fitting a passenger car engine onto a lorry but in the hi-fi scene such intractable combinations are not at all unusual. All too often, speakers and amplifiers are paired on the spur of the moment, with no rationale other than the dictum that "the path is the destination".

Now would be an excellent time for this grappling in the fog to go out of fashion. Enter Kii Audio's Three, a compact active speaker sporting several significant innovations. The amplifiers are optimized specifically for the drivers. Aided by the

ROOM AND PLACEMENT



Suited for all rooms and placement styles. Best headroom in corners. Toe in lightly. Listening distance 1.5m or more.

Key: D=dry, E=even, R=reverberant, H=hugging wall, C=close to wall, F=freestanding



SIX OF THE BEST: Four woofers (two each on the sides and rear) are driven so that bass frequencies are preferentially radiated forwards. Separate drivers are used for mids and highs.

over their respective frequency ranges. The Three is based around six drive units with an equal number of amplifier channels rated at 250W each. Like in any proper active design the bass response is electrically EQ'ed, that is to say that the impulse response and cut-off frequency is determined by the filter parameters rather than the tiny cabinet volume in concert with the drive units' Thiele-Small parameters. This means, of course, combating the natural roll-off of the system by ratcheting up power towards the lower end of the frequency range.

Doing so does make it about ten times more power hungry than a non-EQ'ed speaker, in particular as it was decided, in the interest of sonic precision, to opt for a sealed cabinet. This means that all of the volume displacement now has to come from the drivers. Four very long stroke drivers are used – two mounted on the sides, two on the back. The data sheet promises a flat response down to 20 Hz but according to our measurements (see last page) that is actually conservative. It's nearer 19 Hz. The Kii's bandwidth alone shows up pretty much all passive loudspeakers, including much bigger floorstanders.

But the best is yet to come: the DSP controller drives the bass units and the midrange partly out of phase to produce a controlled level reduction off the main axis. While normal loudspeakers only become directive in the mids and highs and remain more or less omnidirectional from the upper bass down, the Three actually manages to maintain directivity down to some 40 Hz. If we imagine ourselves looking down at the speaker from above, the directivity pattern becomes heart shaped with a pronounced minimum towards the rear.

DSP controlled crossover network the specially selected drive units deliver a time and frequency linearity that's pretty much at the limits of what is physically possible. And oh yes, it rather effectively takes on the thorny matter of room acoustics.

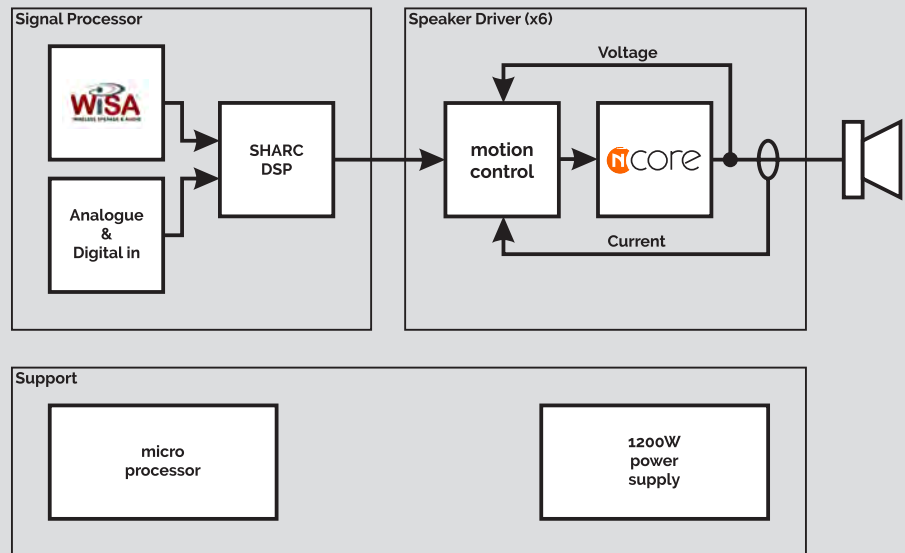
Let me tell you this much up front: here's a family friendly compact speaker that scores far higher on all significant audiophile fronts than any we've had here at AUDIO in our thirty plus year history. It cheerfully relegates much more expensive speaker/amp pairings. But before we gorge ourselves on superlatives let's take a good look at the technical back story.

Kii Audio is made up of five audio en-

thusiasts with a long track record in the professional and high-end audio scenes. The technical brains of this young (2014) Wermelskirchen, Westfalia outfit is none other than Bruno Putzeys who was responsible for countless fundamental innovations at Hypex, the Dutch amplifier and filter specialist. It is also he who penned the design of the Grimm Audio LS 1 that left such a superb impression here (see the review in the May 2013 edition).

The Three sports the newest generation of his amplifier modules, for the first time complemented by a kind of impedance control feedback. This serves to match these highly efficient and compact modules with their respective loads

FULLY ACTIVE: The balanced input takes both analogue and digital signals. The wireless option requires the “big” Kii Audio Controller which will only become available at a later date. The wired inputs accept 192 kHz 24 bit, wireless it’s 96 kHz. At the core is a 40 bit floating point DSP controlling the frequency and time responses with great precision. The Hypex Ncore power stages operate with a so-called synthetic output impedance (shown as Motion Control) whose aim is to reduce distortion. The modules are optimized for their respective frequency ranges and are said to sound highly musical.



Controlled directivity at long wavelengths is a stroke of genius we’ve long been waiting for, because now it’s also at low frequencies that the sound is mostly controlled by the speaker rather than the room and its resonant modes. Lumpy and mushy bass is a thing of the past. A trim pot on the rear controls total bass energy and directivity. The maximum setting is for free field use (free standing in large rooms), which produces the ruler flat response you can see in our lab report. The minimum setting corresponds to placement directly in the corner where the bass gets reinforced by three solid boundaries. Between those extremes are 16 finely graded steps covering intermediate situations.

This method makes the Three adaptable to nearly any environment and ideally results in the same neutral and precise presentation every time.

Placing them near a wall has no downsides, quite the contrary: it extends headroom as the drivers and amplifiers need to do less work. Cramped conditions are fine – the suggested minimum distance towards the rear wall is a mere 8 cm.

Although many speakers have some kind of a bass control, this only reduces the amount of radiated energy evenly in all directions. When the problem is a room mode this is pure symptom treatment as it doesn’t actually eliminate the accumulation of energy next to and behind the

speaker. The Three on the other hand eradicates this standard hi-fi problem simply by not radiating into these critical spaces. The cardioid directivity improves bass definition markedly without resorting to thinning out the bottom end.

Another part of Kii’s philosophy is aiming for perfect behaviour in the time domain. Delaying the mid-high section somewhat compensates for the geometrical offset between the various drivers and in spite of the fairly complicated filters all frequencies arrive at the listener at the same time.

A perfect step response is a rarity among three way speakers but the Three passes this test with flying colours. More about this in the box on the following page.





CLEARLY ARRANGED: The XLR input at left will accept digital or analogue signals as required. The boundary control adjusts the speaker to the room placement. The contour control selects between 16 pre-programmed curves to suit personal tastes. The network connectors link the two speakers.

As not everyone may be a fan of complete neutrality there is another rotary pot with a selection of 16 response tweaks to add salt and pepper. The six drive units are sourced from renowned manufacturers. The 16 cm woofers, like the slightly smaller mid-range, employ very stiff aluminium diaphragms. The highs are covered by a flush mounted dome unit. Unit-to-unit

tolerances are calibrated out in the DSP. The box is only 20 cm wide and is constructed of two multiply braced, acoustically neutral halves made of cast polymer. Standard it comes lacquered white with dark grey metal trim but custom paint jobs are available at an additional charge. Any colour can be made up - the choice is only limited by your imagination.

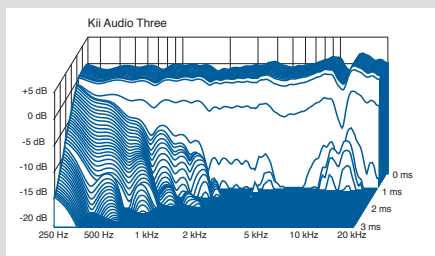
The input is XLR and preferably takes digital up to 192 kHz / 24 bit but with a flick of a toggle switch analogue signals are equally catered for. For the near future two controllers are planned. The minimal option which will arrive next year takes USB and S/PDIF but is otherwise mainly a volume controller. A “bigger” controller is scheduled afterwards. It is said to take a wider range of inputs and to communicate wirelessly with the Three. But basically, a notebook computer with any commonly available player software is all you really need.

For the Three we can suffice with the shortest ever listening report. Its essence is one of superb accuracy that grabs one immediately and releases no-one from its thrall. It takes only a scant few seconds for the listener to grasp what sets this speaker apart from classical speaker and amp combinations.

It sounds as pure as crystal, it’s spatially and dynamically right on the mark and its magnificent authenticity alone will make customers sign the order form well before the dealer has managed to produce the compulsory cup of coffee and line up the leaflets.

I let the listening session continue into the small hours, long after the conclusion was clear: this exceptional speaker lets you hear subtleties that no other speaker and amp pairing uncovers. You get a rightness that ruthlessly exposes weaknesses in recordings and deepens moments of joy equally.

WATERFALL AND STEP RESPONSE PLOTS



WATERFALL: After suddenly stopping the test signal the speaker comes to rest very quickly.

The time domain behaviour explains some of the Three’s precise sonics. The waterfall plot (left) shows the speaker’s response after stopping the signal. The rear of the plot shows the frequency response, the time axis points forward. Above 2kHz it’s dead quiet after just a few milliseconds. Also lower frequencies ring down unusually fast. The step response (in red) is, if possible, even more perfect. Low, mid and high frequencies are indeed radiated at the exact same time.



STEP RESPONSE: A step signal contains all frequencies. The steep edge is exemplary.



DESIGN OBJECT: The cabinets are finished in glossy white. The studio version (same price) has a dark gray structured coat. Any colour is optionally available at an additional charge but the trim around the drivers is always anthracite gray.

Sounds were delivered in all their contrasting colours, full-bodied and physical, spatially precise in all three dimensions and blessed with a fabulously life-like bass. It's the first time ever that we've had a speaker in the AUDIO listening room that was this transparent and assertive all the way down. All that precision aside the Three isn't shy about volume either. Even when used free-standing, more than a meter out we had to take the bass switch one or two notches down.

In 2010 the acoustic guitar duo Friend 'n Fellow covered Lou Reed's classic "Walk on the Wild Side". On the Kii Audio Three the song came out unearthly light and relaxed. We could not get enough of its varied sonic pallet of hues and shades. Wild times are afoot for Kii Audio's competitors. You may look far and wide but you won't find anything comparable in its brilliance.

CONCLUSION



Wolfram Eifert
AUDIO staff member

The Three fulfils several long harboured wishes. The loudness reserve is more than ample, in spite of the compact design. The ability to adapt to the room's acoustics and the enormous bass capability make many famous speakers look decidedly tired. Combine this abnormal transparency and effortlessness and few eyes remain dry. The digitally produced bass cardioid and the DSP control aimed at maximum fidelity is nothing less than a stroke of genius. Why hasn't anyone done this before?

REFERENCE DATA



	KII AUDIO THREE
Distribution	Kii Audio GmbH +49 (0) 21 96 / 88 83 20 2
www.	kiiaudio.com
MSRP	10 000 Euro
Warranty	2 years
Size (WxHxD)	20 x 40 x 40 cm
Weight	15 kg
Veneer/Foil/Lacquer	- / - / •
Colours	Glossy white, gray trim; optional custom colours
Operating Principle	3-way, sealed
Placement	Free, near wall or in corner
Particularities	Digital bass cardioid

AUDIOGRAMM

⊕ Extremely natural, richly textured, spatially detailed, stupendous microdynamics, phenomenal bass

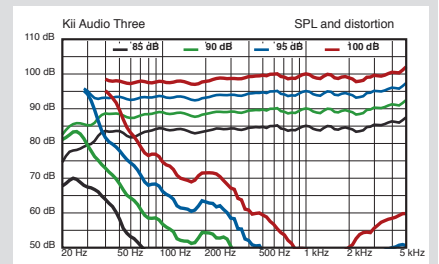
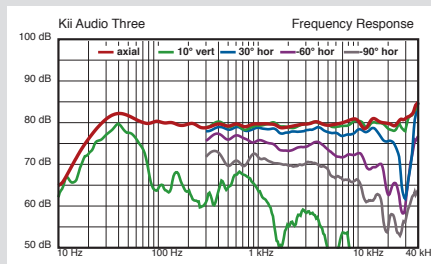
⊖ —

Neutrality (2x)	110	<div style="width: 100%; height: 10px; background-color: green;"></div>
Detail (2x)	110	<div style="width: 100%; height: 10px; background-color: green;"></div>
Imaging	110	<div style="width: 100%; height: 10px; background-color: green;"></div>
Spaciousness	105	<div style="width: 100%; height: 10px; background-color: green;"></div>
Microdynamics	105	<div style="width: 100%; height: 10px; background-color: green;"></div>
Max. SPL	85	<div style="width: 85%; height: 10px; background-color: gray;"></div>
Bass quality	100	<div style="width: 100%; height: 10px; background-color: gray;"></div>
Bass extension	95	<div style="width: 95%; height: 10px; background-color: gray;"></div>
Finish	excellent	

SCORE 104 POINTS
PRICE/PERFORMANCE EXCELLENT

FREQUENCY RESPONSE AND DISTORTION

The free-field setting on the Three yields extremely flat response curves that drop off in a text-book fashion at greater off axis angles. The green curve shows the output behind the speaker. The -3 dB point is sensationally low at 19 Hz. In the free field the maximum bass output level is around 93 dB. Duly adjusted to actual room placement the bass reserve catches up with the rest of the frequency range which has substantially more headroom.





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