
BOENICKE
audio

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A sense of achievement

For years, the Swiss loudspeaker manufacturer Boenicke was praised for its extremely pure and transparent sounding models. Their precise, never overbearing bass tone was always more important to the manufacturer than simply reaching as low a frequency as possible …

…Then the manufacturer ventured out onto the ice, increased the level of complexity and integrated an active bass for the flagship W13. In the following article you will read what this entailed and why the article, first announced years ago, has taken so long to appear.

When you unpack the Boenicke W13 and set it up, you may at first feel nothing but admiration for the sheer beauty of the slender column. The way it stretches out towards you, simultaneously bold and elegant, with its clear lateral edges and the confident large curves on the narrow upper and lower edges, possesses a unique design language in the High End landscape. Very few other loudspeakers have such a high recognition value and, to my mind, such great design coherence. On closer inspection, many may scratch their heads: preset settings and level controls on the active unit, swinging feet that make it difficult to move the speaker after installation, and a rear-firing tweeter, with which the smallest changes in placement lead to major changes in sound. What at first sounds like a real challenge turns out to be a very manageable task if the installation is approached correctly. You get such precise acoustic feedback during the individual steps that you can hardly go wrong, as long as you listen carefully. And ultimately, the speakers end up pretty much positioning themselves much more perfectly than you yourself might have done at first.

How so? Let us take you on a brief tour of the set-up process. The best thing to do initially is to set up the speakers without their swing bases and without the active bass switched on. With a little trial and error when toeing in, you'll soon realise that the W13s are not only able to reproduce an eminently expansive sound stage. But at the same time, they succeed in focusing on the individual instruments like a magnifying glass. This means that you can place the two transducers much further apart than you would otherwise. The first sense of achievement! If you like a really big, realistic sound stage that's not at all bloated, but where the proportions are as impressive as the pinpoint locating ability – this is one of the few speakers that can do that. Next, listen for the fullness and substance in the bass and how it forms a unity


W13
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JL AUDIO
13TW5v2.4

Special drivers that even connoisseurs of the subject would otherwise rarely have come across:
Left: the long-throw 13-inch bass driver from JL-Audio comes from the car hi-fi market and, with its extremely hard injection-moulded cone, is designed for level requirements that are certainly not reached in the home. It plays with its twin partner in its own closed cabinet, which is supposed to cancel out resonances.
Centre: The 6-inch bass-midrange driver with the unusual wooden cone comes from the Lucky Sound company in Taiwan. The voice coil is specially made for Boenicke, as is the wooden phase plug with its copper ring. Due to the softness of the cone it acts similar to a bending wave radiator – with increasing frequency the whole cone is no longer moved, the drive becomes successively more and more central.
Right: The 3-inch full-range chassis is custom-made for Boenicke, here with a spiral parallel resonator made of gold-plated copper wire.
Left front: the rear-firing tweeter

Point-to-point wired and low resonance: the crossover is not built on a circuit board, but is mounted on a wooden panel and then glued into the finished cabinet for maximum vibration isolation. The capacitor with tinned copper foil comes from Duelund

with the midrange. You'll be as surprised as I was: a few centimetres, sometimes just pushed forward or back a tiny bit, makes the difference between whether a voice or cello sounds empty, tinny and lost, or full, harmonious and with fascinating spatial presentation. The next, quite astonishing, sense of achievement is when the main transmission area suddenly sounds so integrated and harmonically balanced.

At this point, you might not just move the boxes back and forth, but again a little further apart or closer together. In the end, the dispersion pattern of the W13 is ideally integrated into the room and the speakers are adjusted to the room modes above the low bass range. The correct adjustment of the active bass unit will then be easy. First, however, it's time to place the speakers on their swing bases. This development by Sven Boenicke amazes me anew with every installation. Slide the support plate on the back of the speakers into the slot provided, then hook it sideways into the rope attachment of the two towers. After that, it remains only for the corresponding metal ball to be pushed under the bowl-shaped recess of the bottom of the speaker – and the speaker is ready to swing. With an Allen key you can now adjust the height of the steel cables to bring the cabinets into a horizontal position (seen from the front). And now listen to the last piece of music you heard. Wow! Everything has come to a new life, voices are more supple and tangible, the sound structure is clearer, the sounds themselves have become more sinewy, flexible and powerful, as if driven by a strong breath with new inner dynamics. Sense of achievement number three!

Finally the adjustment is completed by fine-tuning the active subwoofer unit. Four pre-programmed presets and a level control serve this purpose. The first two presets are at a bass onset frequency of 50 and 62 Hz, respectively, and are suitable for larger and more spacious rooms. The other two lock in at 78 and 98 Hz (all with a 12 decibel slope per octave) and are intended more for smaller, more heavily damped rooms. Use the level control to adjust the volume of the woofers to the input sensitivity of the

power amp you're using. Then listen a little more closely to see which bass input frequency provides a sonically flush, seamless integration. That's it! And the next sense of achievement comes with it: such a fast, ultra-deep bass reproduction, which at the same time can make large rooms, such as concert halls, palpable, but also gives the double bass real volume and conveys the deep, powerful vibration of the strings that is otherwise only possible with much larger passive speakers.

At this point, dear readers, I can finally let you in on a little secret. Two years ago I tested a Boenicke W13. It had the excellent attributes described at the beginning. There was only one point where I still couldn't make much progress in terms of sound: despite all my attempts, I never really managed to get the bass to flow rhythmically; the W13s always seemed a little stiff at the hip to me. Without a doubt, they were fascinating loudspeakers and I found the price-performance ratio as excellent then as I do today. But they never seemed to really want to ignite, sometimes more, sometimes less, depending on the music. This couldn’t be more different in the current version! And for me the greatest sense of achievement. How did Sven Boenicke manage this big step in his development? Mainly, I suspect, by investing a considerable amount of time: the DSP of the bass electronics works at 48kHz, its delay can be shifted in 20 sample steps plus or minus. And

Partnering equipment

Turntables: TW Acustic Raven Black Night, Brinkmann La-Grange 2-Arm / RöNt 2, Nottingham Deco **Tonearms:** Acoustical Systems Axiom, ViV Rigid Float CB 7, TW Acustic Raven 10.5, Nottingham Anna II, Brinkmann 12.1 **Cartridges:** Ortofon Century, Grado Epoch, Topwing Suzaku Red Sparrow, Audio Note UK IO Ltd, Ortofon Anna Diamond, Kondo IO-M, Ortofon Cadenza Mono, Soundsmith Strain Gauge, Brinkmann EMT ti, Fuuga, London Reference **Phono transformers:** Kondo KSL-SFz, Kondo Sfz (2020), Audio Note UK AN S9 **Phono stages:** Kondo KSL-M7, Gryphon Orestes **CD transport:** Jadis JD1 Pro MkII **D/A converter:** Jadis JS1 MkIV **Preamplifiers:** Kondo M77, AIInic L-10000, Unison Reference **Power amplifiers:** Octave Jubilee 300B, Frans de Wit Signature Century, Jadis JA 80, Gryphon Reference One **Integrated amplifiers:** Rike Audio Romy 20SE, Unison Simply Two **Speakers:** Living Voice OBX-RW3, ProAc Tablet 50 Signature **Cables:** Boenicke IC3 CG Pro, M2, Kondo KSL-LPz, KSL-SPz2, KSL-ACz Signature, HMS Suprema SLS, AIInic ZL-5000, Audioplan Maxwell U, Frans de Wit Signature Origin, Cardas Clear Beyond **Accessories:** AFI flat. Record Stirrups, Harmonix, Audiophil Schumann Generator, L'Art du Son, Thixar SMD, HRS, TimeTable, Shakti, Shun Mook

that's what Boenicke did, sample by sample he tuned the phase in the bass to the passive loudspeaker, in the millisecond range. Until it was right, he reports.

And how is it now? Let's listen to Fiona Apple's fantastic current album "Fetch The Bolt Cutters" (Epic/Clean Slate USA/EU '20 2-LP): "I Want You To Love Me" starts percussively groovy, a great mixed piano comes in and you're already grooving along, there's really no question of hip stiffness any more, quite the opposite. Then it isn't just me holding my breath. Because now Apple's vocals start, her voice appears in front of you, not so close, but big and so present and vibratingly powerful, with its expressive guttural-rough undertones, that the W13 is completely in its element: to beam the listener completely into another dimension. If there were an acoustic room scissor, one could cut out Apple's vocals in three dimensions, so precisely focused and sharply outlined do the Swiss speakers project them into the listening room. In addition to the speakers, thanks also go to the great Bob Ludwig, who created a superb master from the tracks recorded in Fiona Apple's home studio. With the next track, "Shameika", it is also easy to demonstrate why high end hifi can be so endlessly fascinating – and often necessary

The 350-watt Class D bass amplifier with programmable DSP: via four presets and a level control, the electronics can be tuned to the room and power amplifier used. Don't forget to switch it off after listening!

to really hear what the musicians recorded, what they wanted: Fiona talks about the distractions she used to dream away and fritter away her time with during her school days, on the way to school, in class. And suddenly her voice draws us close to her with an intimate closeness: "Shameika said I had potential", several times in a row, and we feel quite physically that this sentence hit her like a thunderbolt at the time (although she didn't even know what exactly "potential" was supposed to mean – but just as the extremely intimate rendition makes the potentially life-changing explosiveness of this short sentence clear to the listener, she must have intuitively grasped its significance at the time). Wonderful how the piano, which is not recorded very well at all, develops a stirring groove together with the drum set and the bass. It's infectious to sing along with such a rendition, right up to the little orgy of sound at the end, emblematic of the whirl that the movement triggered in 'the little' Fiona's head. And even this brief cacophony is played by the W13 SE+, dynamically unbridled, but clean and unstressed, as always.

Anyone who listens to the W13 SE+ and doesn't notice this extraordinary cleanliness, an ever-astonishing transparency down to the deepest depths of the recording setting and a sound colourfulness that is as sparkling as it is subtle, almost certainly has either a set-up problem or matching issues in his or her system. The semi-active design of the W13 offers great advantages over a passive design (bass, spatial perception, lower power requirements), but you do need to pay attention to a few aspects: the second preamp output for connecting the active bass units, for example, must not be run with rotated phase response – some preamps do this incorrectly, one should clarify this before installation. The use of valve power amps should be tried out on a case-by-case basis. Although the W13s do not have particularly high power requirements, the DC resistance of the voice coil of the full-range chassis with the wooden cone is 15 ohms, so the amplifier should be able to supply a comparatively high voltage in the midrange. For a lower-powered valve amplifier, a 16-ohm tap on the output transformer would be ideal (on some, this can be soldered internally). The power amps used for the test period brought the extreme transparency of the Swiss speakers to light in all their glory: the Signature Century power amp by Frans de Wit naturally has no power problem, the Octave Jubilee 300 B behaved perfectly via the 8-ohm terminal and even at high levels (to which the W13 tempts precisely because of its perpetually clear, unstressed performance) showed not a trace of strain. Finally, it should be borne

in mind that the W13's power amplifiers have balanced inputs; those whose preamplifier has RCA outputs should consult their dealer. I used Boenicke M2 mains cables to power the bass amplifiers. Not only because they are very flexible and thus do not deprive the swing bases of their potential freedom of movement. They are also intended to prevent possible mains pollution from the Class D power amplifiers.

It will not have escaped your notice, dear reader, that this report is permeated with terms like clarity, cleanliness, transparency. In other words, sonic artefacts are largely alien to the Boenicke W13 SE+ once it has been properly integrated into the listening room. Without the sonic goals of the designer himself, the speakers would never have turned out so successful, of that there's no question. But Sven Boenicke has enlisted the help of other developers – I would like to call them sound researchers – in a way that is unique on the world market: his loudspeakers are virtually filled with tuning measures, all of which are supposed to lead to a clean result, free of all kinds of sound-damaging influences such as resonance, interference radiation and electron noise. In the past, some of these measures have been denigrated as voodoo. I have always thought that was nonsense, because if I hear a difference, and a repeatable one at that, it is simply applied technology. Regardless of whether there is an immediately comprehensible explanation for it or not. Keep in mind what Boenicke is using: several Quantum Purifiers from Bybee, in the SE+ version of the W13 compared to the SE version one more before each of the positive connectors of the driver terminals. The Quantum Purifiers are supposed to reduce the quantum noise of the electrons, which is caused by their interaction with cables and components. Although inaudible, the reduction of quantum noise is supposed to result in better timbres and the preservation of fine signals such as in the overtone structure. Then there are four series and parallel resonators per speaker by Volker Bajurat (Clockwork Audio, known for modifications of the Sony SACD players), namely the 16 cm special version rolled into spirals with 2 mm gold-plated copper wire, mounted on crossovers and the bass-midrange drivers as well as on the full range driver. Additionally, RS 5700 tuning bases from Harmonix are mounted on the magnets of the full range drivers. And there's more: parallel to the input terminal, Boenicke uses Speaker Match Signatures by Steinmusic; they are supposed to make the holographic sound experience possible in the first place and to surround the listener as if in a sound field. Particularly important to the Swiss designer are the three firewall filters by LessLoss, which are generally intended to ensure an authentic sound experience with intense tonal colours. The firewalls are supposed to prevent today's all-encompassing HF pollution from entering the components at all.

I briefly totted up what it would cost to equip loudspeakers with all these parts: about 3000 Euros! Add to that the drivers (the four bass drivers from JL-Audio alone carry a price tag of 3600 Euros), the DSP bass electronics, the wiring from LessLoss, the swing bases that Boenicke has had manufactured (and which are available for other speakers for 1400 Euros per pair), obviously the cabinets, machined from solid blocks, not to mention the C-37 lacquer that is applied to the entire back of the wooden cone and the paper voice coil former, then the W13 SE+ really does seem to be good value for money in the truest sense of the word. In any case, I know of several manufacturers, who with a similar cost structure would charge totally different prices. Or would have them manufactured in China instead of Switzerland, a country with generally very high production costs.

But let's listen to some more music – and be amazed: on the outstanding recording "Be Cool In Munich, Part III" (Not on Label, Penck 14, D 1985, LP), the W13 SE+ leaves you open-mouthed from the very first note. AR Penck plays his piano somewhat distant on the left, but precisely defined, while Butch Morris plays his cornet on the right in front of me as if I were sitting directly in front of the stage. Now

Dennis Charles starts on the drums, I wince a little, because the immediacy of his playing at a distance of about three metres, the realistic size of the instrument, the dry attack of the bass drum, but above all his incredibly tightly woven playing with the hi-hat, all this develops an almost uncanny live effect. And then Frank Lowe bursts in with his saxophone, steps in front of his illustrious free jazz troupe and almost blows me out of my seat, so direct, so strong his solid, staccato playing with its typical gnarly bursts of air. You could call it sensational when a loudspeaker comes so close to a live experience! The difference being that Sven Boenicke's unique W13 SE+ is an experience that can be repeated at any time. ▢

Boenicke W13 SE+ Loudspeakers

Operating principle: Semi-active loudspeaker with active bass and passive bass-midrange and full-range drivers **Sensitivity:** 86–89 dB **Nominal impedance:** 6 ohms **Special features:** Rear-firing tweeter, 2 x 13-inch woofers in enclosed cabinet with 2 x 350W Class D amplifiers, DSP and pre-programmed room matching, LessLoss C-Mark internal wiring, integrated Bybee Quantum Purifier, set-up on swing bases, spiral resonators on lower-midrange and full-range drivers, Steinmusic Speaker Match Signature integrated, Harmonix RF 5700 tuning bases installed on full-range drivers **Finishes:** Ash, oak, walnut, cherry (some surcharges) **Dimensions (W/H/D):** 18/105/39 cm **Weight:** 40 kg **Warranty:** 5 years **Price:** 36470 Swiss francs + VAT

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