

50 HI-FI EXCLUSIVE FLOORSTANDING SPEAKERS



No More Brutalism

Canton surprised at the High End Audio Show with the new Reference series, which features curves instead of the square design of its predecessors. We ordered the Reference 3 for a review.

Michael Lang

They were one of the most admired attractions at the High End Audio Show Munich 2023: the speakers of Canton's new Reference series. With an extreme optical makeover compared to the previous models and extensive technical enhancements as well as an impressive demonstration by trade fair standards, the German company surprised the numerous guests from all over the world – whether they were end-users or visitors who had come out of professional curiosity. The well-established manufacturer from the Taunus region, which is mostly known as a maker of high-quality yet affordable loudspeakers, presented a total of eight new models.

The preceding models of the Reference series were always heralded by the reputation of sounding as rough as they looked

– although we were unable to confirm this impression in our tests. In addition, there were some instances of sales promotions with incredible discount battles, which was also noted critically at the presentation of the new Reference series in its 2023 version, which is now available. That then led to the hope or fear – depending on your point of view – that sooner or later the list price would also be history and thus the decline in value was pre-programmed.

Aiming for More Value Stability

However, in recent years, the Germans have gradually ensured that the price structure has become more stable and that specialist retailers have regained confidence in the brand through a wide variety of sales measures.

Now, the team led by company founder and senior partner Günther Seitz is aiming to raise the company's sound image to a new level. One that is supposed to delight and please high-end fans and other sound fanatics.

The technical effort that has gone into these speakers is remarkable, even considering the price. That is particularly noticeable in the case of the Reference 3 model tested here. It starts, for example, with the piano lacquer cabinet, which was developed using computer simulation and specially reinforced at critical points. Concerning the design, not much has been left as it was: the new shape was identified as advantageous for sound dispersion, and additional dampings made from a highly effective special acoustic fleece that

1,5 millimeters of paint are applied in twelve layers



The high-quality WBT connection panel is fitted with gold-plated pure copper bridges. Above that: Adjustment options for treble and mid-range.



HOMEMADE

Canton develops all of the complex loudspeaker drivers itself.

prevents standing waves inside were integrated. The problems in an average living room have also been considered. For example, the bass reflex port radiates downwards onto the base at a defined distance, meaning that the speakers do not necessarily have to be positioned far away from the room's rear wall.

The distribution of low frequencies – which are said to be spread particularly evenly to the front and rear thanks to the cabinet design – also contributes to the thus easy handling. On top of that, Canton provides adjustment options for the mid and high frequencies. As our measurements show, both of these can adapt the speakers to the listening room and personal preferences gently, but audibly. Decoupling from the floor is not achieved with classic spikes, but with solid stainless steel plates fitted with special rubber pads.

A Puzzle Of Many Pieces

The crossovers are separate for bass and midrange/tweeter and equipped with high-quality components, some of which were specially manufactured for Canton. Head developer Frank Göbl paid particular attention to the very broadband mid-range driver and its ability to reproduce the widest possible frequency range. It now operates between around 180 and 3,000 hertz, with the goal of aiming for the best possible homogeneity. The internal cabling also appears to be of high quality and is characterized by first-class electrical values and a high immunity to resonances caused by microphonics.

Aiming not to stop halfway, the Reference series has been equipped with the expensive but renowned Nextgen bi-wiring connection terminals from WBT, while the connecting bridges are made of solid, gold-plated copper instead of simple sheet metal. The actual terminals are made of the material POM, which is popular for turntable platters due to its low resonance. This plastic is also used for the driver cover ring in the Reference series.

For a long time, opinions on the importance of driver quality for the sonic result differed widely among developers. However, it is evident nowadays that serious advances in sound quality can only be achieved if the drivers are excellently designed in all parameters and optimized for the respective area of application. That obviously has to come in addition to the housings and first-class crossovers, which in the case of the Reference series are also impulse-optimized. Furthermore, the drivers also should harmonize with each other in such a way that they do not have to be adapted to each other with a large number of resistors and other crossover components.

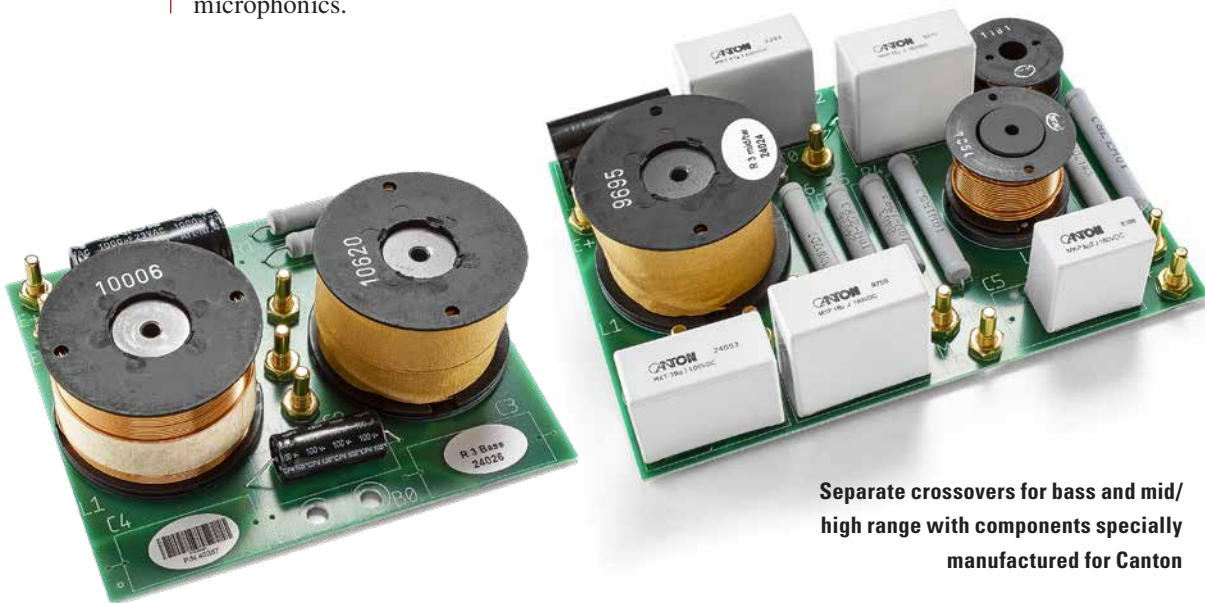
In addition, strict selection and/or extremely meticulous manufacturing with minimal tolerances is essential in order to elicit realistic sounds from the end product. By the way, this is a requirement that the BBC has always placed on its loudspeaker suppliers.

Canton is one of the few manufacturers who develops drivers completely in-house using tools such as Klippel measuring



INTERIOR DESIGN

Stiffeners, separate chambers for the drivers and a bass reflex port with a defined downward radiation indicate the complexity of the development.



Separate crossovers for bass and mid/high range with components specially manufactured for Canton



The magnet system, voice coil, spider, basket, cone and surround of the driver have to be carefully matched to each other.

systems and programs developed by themselves. The result is drivers in which everything from the magnet system to the voice coil, the sealing ring between the driver and housing, to the centering spider and basket is matched to each other. The membranes for each individual driver are optimized for their task in terms of weight, shape and rigidity. The special wave surround ensures that the power of the driver is converted directly into kinetic energy with minimal distortion.

Canton has come up with fancy-sounding abbreviations for all these special techniques and materials, but we don't want to bore or even confuse you with them here. Finally, the POM driver cover, which is attached without visible screws, serves as an „asymmetrical waveguide“ due to its layered structure and shape, aiming to perfect the radiation characteristics of the drivers and increase the mechanical stability of the entire transducer system.

Audible Progress

But of course, the most important factor when buying any component for high-quality music reproduction is and will always be the sound. Thus, the time did come to get a comprehensive picture of the qualities, strengths and weaknesses as well as the sound character of the Reference 3. This takes time, which we would also recommend to you when you're about to purchase something. We don't listen to and experience music in the same way every day, nor does the mains supply the same voltage and the same level of „pure“ electricity at any time of day or night. That's why we were very happy to be able to spend several weeks examining the virtues and vices of this speaker.

The proper placement in our large, acoustically optimized STEREO listening room was achieved quickly. With a slight angle towards the listening position, a base

width of almost three meters and a similar listening distance, as well as the tone control in the neutral position, things were already pleasantly lively after a short time. It's no secret that Canton is an expert on highly dynamic sound transducers, but listening to Till Brönner and Dieter Ilg with „A Thousand Kisses Deep“, a first difference in character to other speakers of the company became apparent: less juicy, but faster and livelier than expected. The Reference 3, with a modest bass volume, showed what really counts when music is supposed to be captivating. It played as if from a single mold and with astonishing plasticity.

In addition, the trumpet and double bass appeared without any sharpness or droning, everything sounded harmonious, without any attention-seeking ingredients. Indeed, there is certainly room for more in the lower frequencies, but the ease with which

CANTON – GERMANY'S NO.1

The Taunus mountain range near Frankfurt is certainly not the heart of the world, but the company founded 50 years ago by Günther Seitz and a few colleagues has long since established a leading position in the German loudspeaker world. The company still manufactures and develops its loudspeakers from start to finish in a former school (as well as several additional buildings by now). In the beginning, compact and affordable speakers such as the LE 250 caused a sensation for the then still young company and changed the market for good. Again and again, the family-owned company's products received top scores and awards in reviews.

The constant success made it necessary to build a second factory in the Czech Republic. Canton also ensures good sound in numerous cars. The Skoda range of vehicles in particular is entirely equipped with tailor-made sound systems from the German company.

In addition to the classic standmount and floorstanding loudspeakers in a wide range of price levels up to the limited edition GS reference speaker for 50,000 euros, the manufacturer's range also includes in-wall and on-wall loudspeakers, powered and smart speakers, surround systems, soundbars and sound decks. The team around Managing Director Christoph Kraus certainly doesn't seem to be running out of ideas.



TEST DEVICES

CD Player:

T+A SDV 3100 HV

Preamp:

Audio Research Reference 6 SE

Power Amp:

Krell KSA-i400

Integrated Amps:

Audio Research I50,
Symphonic Line RG
14 Edition MK 5 S,
Prima Luna
Evo 400 -1

Loudspeakers:

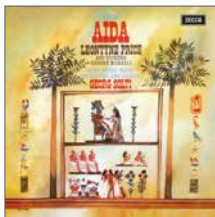
DALI Epicon 6,
Focal Vestia N4

Cables:

Ansuz, Audioquest,
HMS, In Akustik,
Silent Wire,
Stockfisch

WHAT WE'VE HEARD

Guiseppe Verdi: Aida



Outstanding Version of the masterpiece honored by Leontyne Price's voice.

Duran Duran: Singles



The eight-minute version of „Wild Boys“ in particular will stress out pretty much any stereo.

the Canton mastered the orgy of impulses in Nils Frahm's „All Melody“ was simply astonishing. The next stop was „Das Rheingold“ by Richard Wagner and „Wei-che, Wotan, weiche!“ Compared to large loudspeakers, there was a slight lack of opulence in the reproduction of the size of the stage, while the depth relief and focus were convincing and did not seriously make one wish for „more“. The naturalness of male and female voices left nothing to be desired. In fact, thanks to the fantastic resolution, they rather shone with a wealth of the most subtle details. The goosebump moments were delivered together with that, which did not change in the slightest in Verdi's „Aida“ with the wonderful Leontyne Price, even in the most delicate passages.

One of the classic strengths of a Canton speaker is its ability to reproduce high, live-like volume levels in all facets without any sign of strain. Jimi Hendrix with „Gloria“ – anything but an audiophile live recording – already hinted at what great deeds the Reference 3 is capable of thanks to the transparency and wealth of detail on offer. But even an 80s party hit like „Wild Boys“ by Duran Duran didn't cause any problems for the speaker – provided the amplifier was just as relaxed – but rather enabled a short journey back in time to a bygone youth. So if you also feel like virtual time travel – Canton has developed the perfect vehicle for it! ■



The base is shaped in a particular way, so that a defined sound flow is ensured.

Canton Reference 3

Price: around €12,000 (available in matt white lacquer or black piano lacquer)

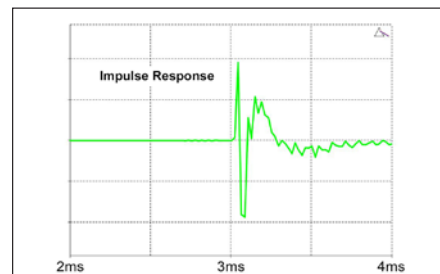
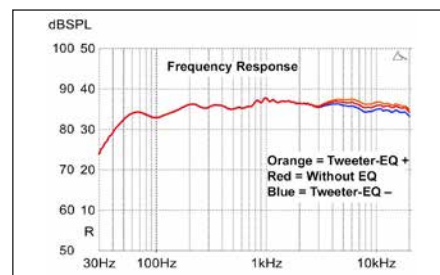
Dimensions: 32 x 110 x 47 cm (WxHxD)

Warranty: 10 Years

Contact: Canton
Tel.: +49 6083 2870
www.canton.de

The Reference 3 is a loudspeaker that breaks radically with its predecessors in terms of appearance and has been convincingly developed in the direction of musicality without denying the core virtues of the brand. The workmanship is „Reference“-worthy.

Measurement Results



Rated impedance at DC	5,3 ohms
Minimum impedance	3,14 ohms at 363 Hz
Maximum impedance	10,32 ohms at 3888 Hz
Sound pressure characteristic (2,83 V/m)	87 dB SPL
Power for 94 dB SPL	7,95 W
Lower cut-off frequency (-3dB SPL)	55 Hz
Distortion factor at 63/3k/10k Hz	0,34/0,073/0,149 %

Lab Comment

Low distortion, smooth impedance response and very linear frequency response. Very good impulse response. Practical efficiency, not sensitive about amplifiers.

Features

Three-way ported loudspeaker with adjustment options for mids and highs; WBT Nextgen bi-wiring terminal; magnetically adhering cover for each driver; stainless steel decoupling feet with special rubber compound.

STEREO - TEST

SOUND LEVEL 90%

PRICE/PERFORMANCE

★★★★☆

EXCELLENT