

FRESH START, NOT RETIREMENT



The restless hi-fi pioneer Klaus Heinz is launching an attack on the highest league with his new company ArcTec Berlin and the magnetostatic headphone AB 92 SC.

Text: Michael Lang

Klaus Heinz is one of those developers who are so full of ideas that even a second life would probably not be enough to bring to light everything that has already taken shape in their minds to a greater or lesser extent.

The son of Nobel Prize winner in physics Ernst Ruska, inventor of the electron microscope, started out while still studying physics in the 1970s with a hi-fi store

in Berlin called Audio Level, where a boy of around 15 years at the time developed a lasting enthusiasm for music and high-quality sound reproduction...

The reason for this was a collection of high-quality speakers from the USA that had been gathered there and were being played one after the other: a Klipschorn, a multi-part Magnepan, and an Infinity Servo-Statik – the boy couldn't stop admiring them. From then on, he was a regular at

hi-fi shows, where he met the man from Berlin again, who was by then offering loudspeakers under the name Arcus and causing a sensation with them in the German hi-fi scene for years to come.

Decades have passed since then. Klaus Heinz was (co-)owner of various companies, from A.R.E.S. to ADAM Audio to HEDD, and continuously expanded his knowledge of loudspeakers as well as, most recently, headphones.

However, he has remained faithful to one idea throughout the decades: the AMT foil drivers developed by Dr. Oskar Heil, which have been considered the most interesting alternative to conventional dome tweeters for many years, especially in the high-frequency range.

Magnetostatic instead of AMT

Surprisingly, however, the search for an AMT driver in the ArcTec AB 92 SC comes up empty. When asked why, Klaus Heinz cites weight as the primary and almost exclusive reason: the AB 92 SC is not a headphone that has been constructed with plenty of plastic to save weight, but rather impresses with high-quality, carefully crafted aluminum. If the transducer had been designed as an Air Motion Transformer, it would either have been relatively power-hungry or would have pushed the total weight of the headphones towards 600 grams, which would have reduced wearing comfort.

Thus, Heinz searched for an alternative. He listened to many different headphones with AMT or magnetostatic drivers, experimented, and considered how he could maybe even improve what he heard, making it less spectacular from a musical point of view but more suitable for long-term listening. His goal in developing the headphones was to combine the neutrality of classic studio headphones with the desires of the most demanding high-end customers in terms of musicality and emotionality.

To achieve this goal, he ultimately decided on a magnetostatic design. It uses a seemingly record-breakingly thin membrane that, including conductor tracks made of high-purity silver, is thinner than 1.5 micrometers. The process of electrochemical deposition, also known as electroplating, is anything but mundane. It took intensive use of all available contacts in the Far East to find a company that could reliably master the process of applying the silver conductor to the carrier foil with consistent quality. Incidentally, silver proved to be the material of choice because,

A HEAD FULL OF IDEAS

ArcTec founder Klaus Heinz on his motivation behind building magnetostatic headphones and his plans for the future.

What motivated you to start a new company at an age when others are long enjoying their retirement?

I had/have a few projects on my notepad that I find appealing, and I still enjoy working on them. As long as I believe that they truly enrich the market, I would like to see them come to fruition.



affordable as possible. But at the moment, the smaller transducers are still burning out, and the thermal problems with the ultra-thin membrane require a little more patience until the time comes for cheaper models.

What is special about your new headphones from a technical point of view? How does your magnetostatic design differ from other versions?

The answer is: silver. If you look at the periodic table for metals that have both good conductivity and low specific gravity, silver is clearly the winner. And then you have to find someone who can electroplate silver in the 1-micrometer (μm) range without burning everything, which is no trivial task, as I discovered during my search for such a company.

Which parts are developed in-house, which ones do you manufacture at your company, and which ones come from the Far East?

I was able to realize the technical and visual design myself with the help of a student who is well versed in CAD, while the electroplating of the membranes is done by a specialized company in China. The aluminum parts, the rings, and the yokes, i.e., the connecting piece that connects the ear cups to the headband, are also manufactured in the Far East. The rest, such as insulation material and small parts, comes from Germany. They are assembled and measured here in Berlin, and shipped from here as well.

Are further models planned for the future? And will these be even more "ambitious" in terms of price, or are you also planning more affordable models?

The next steps will be towards lower price ranges; we want to make the sound quality we have achieved as

Which target group do you want to address with the AB 92 SC?

It's about pushing the boundaries of what's possible; we want to operate at the leading edge of this industry. ArcTec is aiming to become a high-end audio brand focusing on transducers, specializing in headphones and speakers.

Which parts of your headphones can be replaced to ensure durability?

These headphones are assembled here and can be disassembled here as well as in other workshops, meaning that all individually identifiable parts can be replaced. I would like to point out that the mechanics are made entirely of aluminum, with the exception of the headband, which unfortunately cannot be avoided.

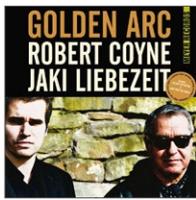
Do you work with partners/venture capitalists, or do you bear the full risk?

ArcTec GmbH is a company that has been 100% self-financed to date. Depending on growth, other options may be considered.

You are not only a physicist and developer, but also a musician, and you are passionate about playing the grand piano...

Yes, on my Fazioli F 308. Similar to large speakers, you hear a deeper, more natural tonality and greater dynamics than with a Steinway, especially in the contra octave.

WHAT WE'VE HEARD



ROBERT COYNE / JAKI LIEBEZEIT: GOLDEN ARC

Not mainstream, but a captivating and excellently produced record.



DANIEL THORNE: LINES OF SIGHT

Fascinating electronic music between intoxicating and calming.

according to the manufacturer, its ratio of specific conductivity to specific weight is significantly superior to other conducting materials.

To ensure high efficiency and an uncritical impedance curve, the headphones feature an unusually large diaphragm with a diameter of 92 millimeters in addition to a larger number of the particularly powerful neodymium magnets. According to the manufacturer, this enables high dynamic reserves with low distortion and a balanced frequency response.

Heinz also paid particular attention to ensuring that the design produced as little resonance as possible. The open construction of the earcups contributes to this. The ArcTec is designed in such a way that there are as few obstacles as possible to the sound, including behind the membrane. This is said to prevent resonance or reflections as far as possible.

The head of development also put a lot of effort into ensuring resonance-free performance with the aluminum ring that houses the transducers. Similar to how a good enclosure is important for speakers to produce the most natural sound possible, the aluminum ring provides the transducer with a particularly stable base, which is supposed to result in a more precise sound that is more calm.

The included plug-in cable is resistant to external influences, but could be a little longer than just 150 centimeters in our opinion. We would also prefer the left/right markings on the earpiece and cable to be a little more noticeable. Given the price and quality class, we would also have liked to see a symmetrical Pentaconn plug and at least one adapter to a 3.5-millimeter mini jack in addition to the classic 6.3-millimeter jack plug.

Compatible connection values

With its uncritical impedance of approximately 33 ohms and relatively high efficiency of 90 decibels, the AB 92 SC is also indeed well suited for use with high-quality mobile devices. However, the actual refuge of the 540-gram ArcTec is, of course, the living room of the discerning sound connoisseur.

There, with adequately high-quality source devices, you will not only enjoy the more than solid workmanship and the extremely comfortable fit the ArcTec offers (despite its considerable weight). The large, asymmetrical ear pads covered with comfortable leather allow even people who wear glasses to enjoy music for hours without heat build-up, while the hinges that move in all directions and the continuously adjustable headband provide effective support.

However, our listening sessions were not only pleasant because of the high level of comfort, with just the right mix of a secure fit and low pressure. After just a short time, it was indeed clear that very special headphones were resting on our ears. Listen to Daniel Thorne's "Fear Of Floating" or Anne Müller and her esoteric soundscape "Solo? Repeat!". It's fantastic how this mixture of strings and electronic distortion is reproduced completely effortlessly and yet so powerfully and gently when



Michael Lang
STEREO editor

»NO REINVENTION OF THE HEADPHONE, BUT AN IMPRESSIVE STATEMENT.«

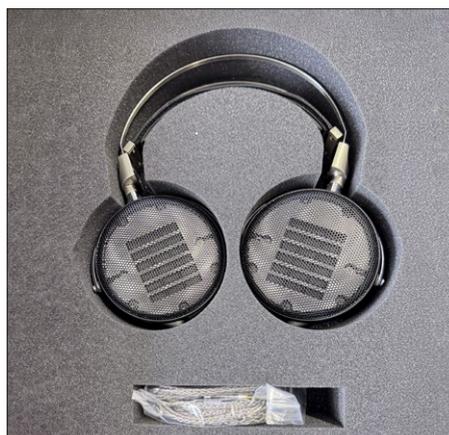
the iFi iCan Phantom (review in STEREO 11/2025) feeds the headphones. This combination even managed to make Robert Coyne and Jaki Liebezit's "New Arrangement" sound so spacious without electronic tricks that the sound only reached its limits beyond the headphones.

Goosebumps inevitable

It was fantastic how the reverberations in Big Daddy Wilson's "Walk A Mile In My Shoes" crystallized. The unusually precise



The ear pads are soft yet, in combination with the headband, provide a secure fit.



Safe transport of the headphones is ensured by the foam padding.



Sturdy and well-made aluminium, no plastic, a comfortable headband - the AB 92 SC impresses.

Fotos: STEREO, Hersteller

reproduction of perspectives and gradations was also evident in classical music in a thoroughly convincing manner, with clear positioning, regardless of whether a sound event originated slightly further to the front or to the rear.

With powerful rock music, the “Berliner Kindl” also showed that it is by no means lacking in energy. Vehement in all dynamic shades, with crisp bass and not annoying even at higher volumes, as long as the recording was halfway decent. The performance of rock guitarist and singer Joanne Shaw Taylor on the live album “Songs From The Road” was impressive. From an audiophile perspective, this is certainly not a masterpiece, but the AB 92 SC made the best of it and put its heart and soul into it with powerful enthusiasm.

Ron Carter's live recording “Flamenco Sketches” also has a great atmosphere. Every impulse came and went at just the right moment, and every note played on the piano, double bass, or drums sounded so accurate that even die-hard speaker enthusiasts were impressed.

When you compare these headphones, which cost €2,400, with the room-filling sound columns that often cost five figures, you can say that they are very reasonably priced and offer a truly exhilarating sound experience, even when combined with the iFi headphone amplifier for then €8,000. In terms of sound, we have nothing at all to complain about here. ■



The asymmetrically shaped earpads are comfortable to wear; the workmanship with the sturdy yokes that swivel in all directions can be considered exemplary. The supplied cables are detachable.

TEST RESULT: PROFOUND. CRITICAL. TRANSPARENT.

ARCTEC AB 92 SC

Product type	Over-ear headphones	
Internet address	www.arcotec-berlin.com	
Price in euros	2,400	
Dimensions (W x H x D) in cm	18.2 x 24.5 x 13.5	
Weight (in grams)	540	
Distributor	ArcTec	
Phone	+49 0173 7464042	
Color variants	black / polished aluminium	
Principle	magnetostatic, open	
ohms	33	
HANDLING	60%	good 2.3
Wearing comfort	good	
Ergonomics	satisfactory	
Quality of the manual	satisfactory	
Left-right marking	satisfactory	
Cable replaceable	yes	
Warranty (in years)	2	
FEATURES	40%	good 2.3
Included accessories	good (replaceable cable, manual)	
Workmanship and materials	very good	
Cable length (in meters)	satisfactory (1.5)	
Isolation	satisfactory (open design)	
PRACTICAL MARK	good 2.3	
Sound description	airy, dynamic and tonally immaculate	
SOUND SCORE	92 / 100	

TEST DEVICES

Headphone amplifiers: iFi iCan Phantom, Lehmannaudio Phonolith

CD player: T+A MP 2500 R

Headphones: Grado HP100SE, T+A SolitaireP