



## Göbel Epoque Fine

*Written by Dirk Sommer*

**The Epoque Fine is sonically one of the two or three best loudspeakers that have ever stood in my listening room. The impeccable workmanship and good size make them very living room friendly. Unfortunately, everything great has its price.**

I have been really lucky with my colleagues. They sit and listen with great concentration at large trade fairs with less than ideal demonstration room conditions while I use these events mostly just to talk to old friends and new manufacturers. At this year's High End, the Göbel loudspeakers made a lasting impression on Jürgen Saile, Wolfgang Kemper and Helmut Baumgartner. They reported this to me in great detail. Since the speakers are manufactured in the same region as Gröbenzell, for me "the damage was quickly estimated" as they like to say around here. It only takes 20 minutes by car to get to Göbel High End in Alling: In the company's own listening room, I can make up for lost time at the show and demonstrate the quality of Epoque to myself. Here, like at the High End the top model, the Epoque Reference is playing. My listening room is not nearly large enough to accommodate these more than 2 meter tall sound sculptures. And that is why I'm glad that, although the Epoque model normally is only made to order, a visually elegant, but after all, 100 kg Fine is at my disposal for a few weeks. For what I hear in Alling immediately triggers my 'must have' and 'must test' impulses.

Göbel High End is not a one-man show - in Alling, a total of five people are engaged in production and development - but nevertheless all strongly influenced by company founder and owner Oliver Göbel. It's not a coincidence that his family coat of arms serves as the company logo. At the tender age of 14, Oliver Göbel was devoted to building loudspeakers. This passion then also influenced his career choice: He was trained in communication electronics, did his Masters in telecommunications and worked in audio development at Siemens. That is where he first came



OLIVER GÖBEL HAS REALLY SUCCEEDED IN MAKING THE VERY FINEST HIGH-END PRODUCT LIVING ROOM FRIENDLY.



THE SO-CALLED RIGID "BENDING WAVE DRIVER" WAS PATENTED FOR GÖBEL HIGH END

into contact with bending wave drivers. He conducted extensive material tests in this field with precise Siemens measuring instruments and well documented his results. Long term, the development of large-scale technology was neither sound-oriented nor audiophile enough for Oliver Göbel, so he decided to start his own business in 2003. One year later the first product, the bending wave loudspeaker Detaille, covered the entire frequency range over 160 Hz and was supplemented with well suited proprietary subwoofers. Another year later, a patent for Göbel bending wave technology was granted. Following that was the development of the in-wall speaker Modul and in 2008 establishing the Göbel Audio GmbH as an OEM partner for other companies. In the same year Grundig released the new edition of the iconic Audiorama loudspeaker. The success of Audio GmbH allowed Göbel High End then the development of the "money is no object" series Epoque, which was first presented in 2010. The smallest model is now standing in my listening room after a little effort (I already mentioned the weight of the so innocent looking speaker).

After the Manger MSMs1 and the German Physiks, the Epoque Fine is already the third bending wave loudspeaker in less than a year that I am devoting myself to in great detail. And yet there are considerable differences between these variations of the same principle. Though closely followed by German Physiks, the Fine driver covers the widest frequency range. In contrast to this omnidirectional driver, it delivers signals up to 4000 hertz forwards and backwards, anything higher than that, only forwards, however with a dispersion range of almost 180 degrees. A conventional driver could never do this. Oliver Göbel's creation differs from Manger's in that it operates as a rigid bending wave driver, which also under the so-called coincidence frequency (this is the frequency at which the phase velocity of the diaphragm is identical with that in the air) emits sound as a bending wave.

The core material of the nine layer diaphragm under the externally visible carbon fiber weave is a special wood that, due to its inherent inhomogeneity, possesses no distinct resonance. During the manufacturing process, different layers of fabrics and resins are compressed and sealed in a highly developed pressing process. By arranging the layers of fabric, the dimensions of the diaphragm and the fiber orientation of the core material, the amplitude of the stimulated bending wave from the diaphragm is continuously being damped during runtime, explains Oliver Göbel. The biggest problem with a

bending wave driver is namely the introduction and damping of energy in the diaphragm. While he doesn't mention much about structural details of the driver, he is willing to report that, by combining aluminum, wood, silicone, rubber and foam rubber to attach the edges of the diaphragm to the frame, he had succeeded in keeping a steady

wavelength of the diaphragm over the entire frequency range of seven octaves. Reflections on the outer edges were entirely avoided. The incisions in the diaphragm primarily served the purpose of diffusely dispelling parasitic vibrations so that no standing wave fields could be created. It would require the angles and positions of the cuts to be exactly calculated and executed to a hundredth of a millimeter. It was only possible to accomplish the latter requirement with a computer-controlled laser.

Even in the construction of the housing, Oliver Göbel attaches great importance to the prevention of unwanted resonances. For the base, where the crossover is housed, and the woofer chambers, he chose a composite strip material composed of paper and resin known in the mechanical engineering field. It is similar to the well known Pertinax,



THE CORE MATERIAL OF THE DIAPHRAGM IS WOOD. THE INCISIONS COUNTERACT STANDING WAVE FIELDS.



THE BACK OF THE BENDING WAVE DRIVER: THE DRIVER IS UNFORTUNATELY HIDDEN BENEATH THE BLACK, ACOUSTICALLY PERMEABLE PANEL. THE TOP OF THE LOUDSPEAKER WAS MACHINED OUT OF A 60 KG SOLID ALUMINUM BLOCK.

but made with a much higher quality epoxy resin. This material with a thickness of 20 mm can only be machined with diamond cutters. The 15 mm thick baffle, as well as the top of the speaker where the bending wave driver is mounted, is made of solid aluminum. The top element of the speaker is made from a 60 kilogram massive aluminum block – “Money was no object” when it came to the production cost in the development of the Epoque Series: It was only important to show what is sonically possible with the patented Göbel bending wave technology. During the nearly three years of development time for technology and design, the merely self-imposed restriction: In the total strive for perfection, the speaker must be living room friendly and not take up too much space. You can see at first glance that this was 100% accomplished with the Fine, and the placement of second bass module array above the bending wave driver looks like an interesting technical sculpture, not like a clumsy speaker – of course given the appropriate ceiling height.



THE WOOFER IS CUSTOM MADE BY WAVECOR FOR USE IN THE EPOQUE SERIES

Back to the internal qualities: Of the six aluminum bass diaphragms on the front and back, only two are driven by a voice coil. Two diaphragms per woofer enclosure are only moved by the backward radiated energy from the active driver. The woofers manufactured in China have a long voice coil on a fiberglass former, moving in a short magnetic gap with a large linear stroke. The drivers are specially optimized for use in the Epoque Fine and Reference: the spider, surround and the diaphragm are manufactured according to Göbel's specifications. Good contacts and the successful cooperation between the Göbel Audio GmbH and the manufacturer really paid off here. In the Reference, four 32-ohm woofers work in parallel and in the Fine there are two 16-ohm versions. In the rather complex crossover - three tuned circuits are required just for linearization of the bending wave driver - only components from Mundorf are employed. But even the vacuum impregnated zero ohm coils are baked at Göbel with epoxy resin. The crossover separates the woofer from the bending wave driver with a steepness of twelve decibels. A smooth crossover is provided by a further “overlapping” area as well as the exact spatial positioning of each driver to another. Speaker feet by Finite Elements and WBT nextgen terminals complete the very positive overall picture.

Before I describe the first sonic impressions in my listening room, let me tell you what intrigued me about the Epoque Reference in Göbel's own listening room: It was especially the homogeneity of sound reproduction. It really makes a difference whether one listens to a very good multi-driver concept or a design where only one driver emits all sound over 160 hertz. Moreover, the soundstage precision, spatial impression and the amount of detail was similar, but without direct comparison difficult to decide which is better. I would say they are at an even higher level than my LumenWhite DiamondLight. Unfortunately, the prices of the two Epoque models also reach a higher level: The Reference pair is 175,000 Euros in the price list and the Fine pair, a mere 115,000 Euros.



VISUALLY, THE FINE LOOKS GREAT, FREE STANDING IN THE ROOM. THE SPEAKER TERMINALS ARE COVERED WITH A STAINLESS STEEL PLATE AFTER CONNECTING THE SPEAKER CABLES.

advises replacing the cables between the phono preamplifier, preamplifier and the power amplifier with the Lacorde out of his production. He is right: The Fine acknowledged the change to the company's own cables with a slightly larger soundstage and a bit brighter sound keeping totally in balance with the vividly colorful upper bass. I think it's only fair to accommodate the Fine a little by creating an environment in which it can demonstrate all of its advantages. After all,

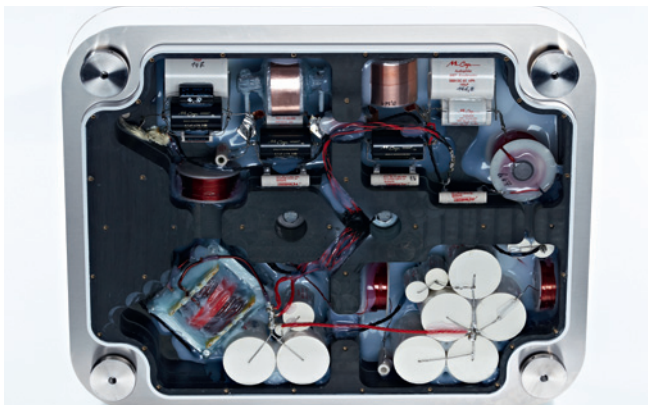
We have to move out of my study not only the DiamondLight, but also the similarly high priced speaker cables - the Audioquest Wildwood for single-wiring. Not that they would be sonically incompatible with the Fine. The delivered version of the Fine had an optional bi-wiring terminal. With a speaker of this caliber, who would want to be bothered using wire or cable bridges? To avoid this, Oliver Göbel brought along a bi-wire cable from his Lacorde series, which of course also perfectly harmonizes with the Fine. After moving them a little back and forth the "small" Epoques ended up not far from the point where my Lumens usually stand. Certainly, the Fine is a lot more sensitive to changes in the distance from the back and side walls. This is probably due to the rear firing woofers. The final positioning for now is a good compromise in terms of bass and deep bass: In the lowest register, the Fine has a touch less pressure than the Lumen, but it plays in the bass to upper bass region with a little more depth and warmth. And I freely admit that their slightly more opulent and colorful performance offers more listening pleasure than the Lumen. In this area, the Lumen may be a little too cautious.

The DiamondLight certainly does have a very slight advantage in when it comes to the depth of an imaginary soundstage: It seems to extend a bit further back behind the speaker than the Epoque Fine. To squeeze a little more out of this discipline with his creations, Oliver Göbel

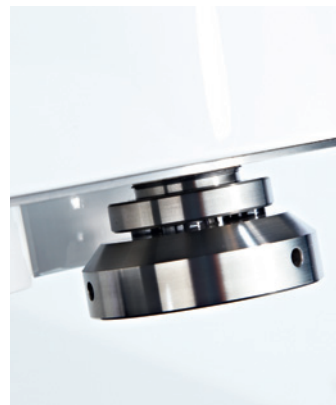


BI-WIRING TERMINALS ONLY BY SPECIAL ORDER. OLIVER GÖBEL PREFERS SINGLE-WIRING, AS DOES THE AUTHOR.

I have constantly optimized my stereo system over the years so the Lumens can now operate in a nearly ideal environment. Indeed, the Epoque Fine demands more accommodating than I was willing to grant it. It insists that it be driven by the trusted mono amplifiers that Oliver Göbel used in their development: The equally powerful as expensive, Analog Domain Audio The Athene with an impressive 4000 watts into 4 ohms. How the Fine got me to heave the imposing, more than 70 kg amplifiers up to my listening room located on the third floor? With a minimum impedance of well below 2 ohms, Jonas Hellborg's deep bass playing on "Elegant Punk" sent one of my two very loyal Brinkmann monos off to the happy hunting grounds. Granted, we listened really, really loud. But this is not the fine art, my dear Fine! However, anyone who is willing to invest in one of these two Epoque models should also have no problem buying a power amp capable of stable operation in less than two ohms.



THE EXPENSIVE CROSSOVER WITH THREE TUNED CIRCUITS FOUND IN THE BASE OF THE SPEAKER FOR LINEARIZATION OF THE BENDING WAVE DRIVER SEPARATED FROM THE WOOFERS. THE COMPONENTS ARE FROM MUNDORF.



THE EPOQUE FINE STANDS ON FOUR ADJUSTABLE FEET FROM FINITE ELEMENT

I confess, I really do not regret that I was forced to change my usual listening test environment. By doing this it became pointless to keep making comparisons to the Lumen. I was simply able to spend more enjoyable listening without falling into the unfortunate trap of obvious nitpicking. And since I've already listened to the most important test recordings while setting up the equipment properly, I was able to do without those well known test discs and rather enjoy my own new recordings from the hard disc player or nearly forgotten treasures from the ECM catalog: Even weeks later, I am inspired by the extremely tight, coherent, and therefore immensely "natural" sound reproduction. I know of no other speaker that plays music with such homogeneity. What already was briefly evident using the Brinkmann Monos, the Analog Domains really demonstrate: the thrilling fine dynamics that the bending wave drivers are capable of. It is obvious that they require powerful partners with an efficiency of only 85 decibels per watt and meter. The Fine is on the highest level in terms of richness of detail and transparency. It's a real shame that only very few music lovers will have the chance to enjoy such perfect sound reproduction!

## STATEMENT

**With his patented bending wave driver, Oliver Göbel has created an incredibly attractive loudspeaker. I have not previously experienced such a coherent, completely seamless coverage of the entire frequency range. Another specialty of Fine is its thrilling, yet unspectacular fine dynamics. In all other hifi disciplines it also reached the highest level, aside from efficiency: It requires fast amplifiers with high stability. A new bright shining star in high-end heaven!**

## Listen with

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Turntable	Brinkmann LaGrange with tube power supply
Tonearm	AMG Viella 12", Kuzma 4Point
Cartridge	Air Tight PC-1 Supreme, Brinkmann EMT ti
Phono preamp	Einstein The Turntable's Choice
Computer	iMac 27" 3.06 GHz Intel Core 2 Duo, 8 GB, OS X version 10.6.7
CD Drive	Wadia WT3200
D/A Converter	Mytek 192-DSD-DAC, Calyx Femto
Tape machine	Studer A 80
Preamplifier	Brinkmann Marconi
Power Amp	Brinkmann Monos
Speaker	LumenWhite DiamondLight Monitors, Acapella Violon MK VI
Cable	Precision Interface Technology, Göbel Lacorde, Audioplan Powercord S, Audioquest
Accessories	PS Audio Power Plant Premier, Clearaudio Matrix, Sun rack, Audioplan Powerstar, HMS power distributor, Acapella bases, feet and Acoustic System resonators, Finite Elemente Pagode Master Reference Heavy Duty and Cerabase, Harmonix Real Focus

## MANUFACTURER'S SPECIFICATIONS

### Göbel Epoque Fine

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Principle	bending wave loudspeaker with impulse-compensating passive radiator
Driver	patented Göbel® bending wave driver, 2 aluminum longthrow chassis(18 cm), 4 aluminum passive radiators (18 cm)
Housing	acoustically optimized composite board, massive acoustic baffles (15 mm aluminum), Top element made of massive aluminum
Finish	White piano lacquer and aluminum parts anodized in natural semi gloss, Black piano lacquer and aluminum parts anodized in black semi gloss
Weight	100 kg
Dimensions	base 36 (W) x 40 (D) cm, 123 cm (H) total height
Impedance	4 Ohm
Efficiency	85 dB / 1 W / 1 m28
Frequency response	28 - 31000 Hz
Dispersion range	28 - 31000 Hz (180° front-side), 28 - 4000 Hz (rear-side)
Price	115.000 Euros

## MANUFACTURER

### Goebel High End

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