

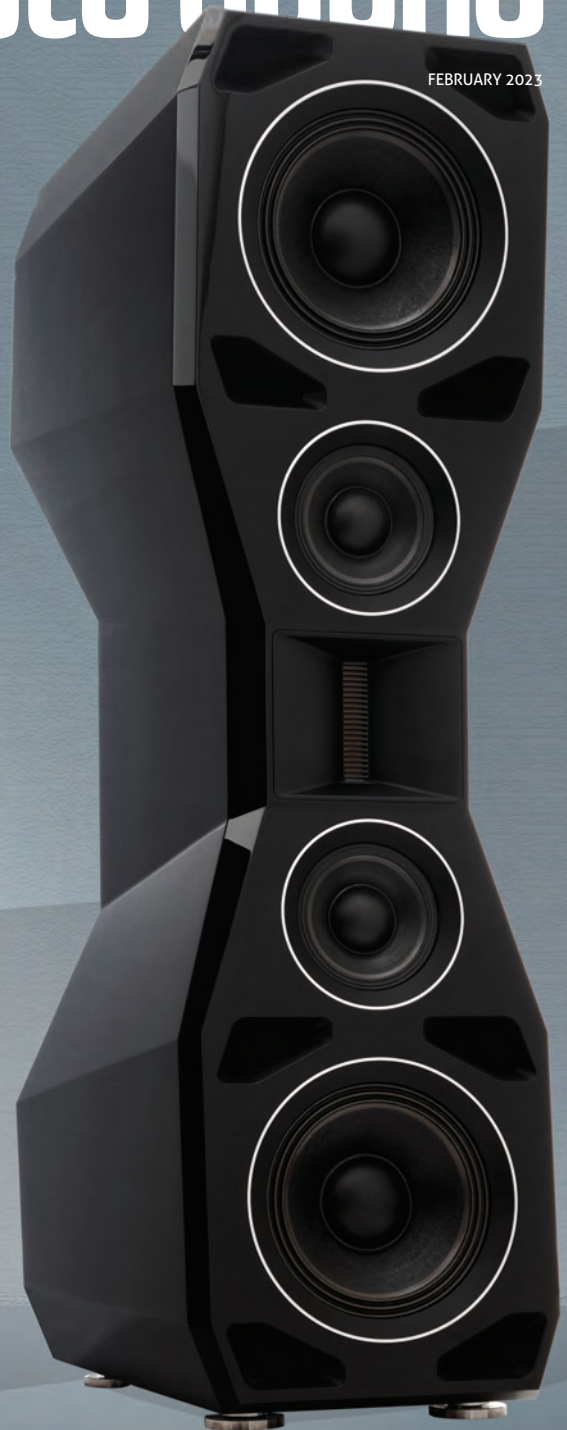
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FEATURE REVIEW:

Göbel High-End Divin Noblesse Loudspeaker and Divin Sovereign Subwoofer



FEBRUARY 2023

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Affordable Focus: Great Sound for Every Budget

Göbel High-End Divin Noblesse Loudspeaker and Divin Sovereign Subwoofer

Advanced Engineering, World-Class Sound

By Robert Harley

Photography by Wright-Steel



Göbel High-End Divin Noblesse Loudspeaker and Divin Sovereign Subwoofer

Göbel High-End may be an unfamiliar name to North American audiophiles, but the German loudspeaker manufacturer has enjoyed wide popularity in its home country, throughout Europe, and in Asia. The company was founded in 2003 by Oliver Göbel, who left his job as lead loudspeaker engineer at Siemens to forge his own path. Göbel has specific expertise in bending-wave transducers and developed an acoustic application for the technology for which he was granted a patent. That patent was the impetus for Göbel to start his own company, focusing on high-end loudspeakers and refining bending-wave transducer technology. This year marks the Göbel High-End's 20th anniversary.

Göbel's company has grown, moving in 2022 to a new factory near Munich, built from the ground up with Oliver Göbel himself providing the building's architectural design. I had seen Göbel speakers at the Munich High-End show many times, but never got a good listen to them because their large exhibit room was always standing room only. My first real exposure to the firm's products came at the 2022 AXPONA show, where I heard the \$90,000 Divin Marquis demonstrated by Elliot Goldman, Göbel's U.S. distributor. As I (and Jonathan Valin) wrote in our show reports at the time, the Divin Marquis was one of the show's best sounds. It didn't hurt that the system included the Wadax Reference DAC and Reference Server front end and was powered by CH Precision 10-Series electronics—reference-quality components.

After the show, I did some research on Göbel's technology and became intrigued by its Divin products. The company offers two lines—the Epoque Aeon Series that is designed for smaller or moderate-sized listening rooms, and the very different Divin Series. The Epoque Aeon Series (two floorstanders, an on-wall, and two subwoofers) features a flat-panel bending-wave driver that reproduces the range from 160Hz to 31kHz, augmented by an impulse-response-compensated bass array configured in a way that mates with the bending-wave driver's dispersion. You can think of the design as a nearly full-range driver (the bending-wave transducer reproduces an astonishing seven-and-a-half octaves) augmented by cone woofers. The visual appearance of the Epoque Aeon line is unmistakable; a thin column dominated by the large, flat bending-wave transducer flanked by the cone woofers.

The three-model Divin line looks more conventional, but looks can be deceiving. The middle Divin Noblesse reviewed here (\$250,000 per pair) has a symmetrical angular hourglass shape with a very large (5.6") Air-Motion Transformer (AMT) tweeter in the middle flanked above and below by an 8" cone midrange driver and a 12" woofer. The multifaceted enclosure is ported to the front by four ports per woofer, symmetrically positioned around the driver. Although the Divin Noblesse doesn't employ a flat bending-wave driver, the drivers' design is informed by Oliver Göbel's expertise with bending-wave transducers. He used his knowledge of flexible diaphragm behavior to eliminate inaccuracies in the Divin Noblesse's pistonic drivers.

The more I learned about the Divin Noblesse's engineering, the more impressed I became—this speaker is brimming with innovative design techniques that separate it from just another “cones-in-a-box” offering. I've gone into some detail describing these innovations in the technical sidebar.

Notably, the speaker's sensitivity is a whopping 95dB, with a flattish impedance curve and an impedance minimum of 3.8 ohms (at 100Hz). These characteristics mean that the Divin Noblesse will be a very easy load for an amplifier and will likely work well when driven by lower-powered amplifiers.

The Divin Noblesse was supplied with a pair of Göbel's brand new Divin Sovereign subwoofers (\$29,500 each). The sub features an 18" driver, integral power amplification, DSP control, and the ability to tune the sub's parameters via phone or tablet from the listening seat.

“...this speaker is brimming with innovative design techniques that separate it from just another “cones-in-a-box” offering”

LISTENING

Oliver Göbel and U.S. distributor Elliot Goldman visited to install the system, along with set-up expert extraordinaire Stirling Trayle. Watching Trayle work is an experience in itself; he combines unparalleled expertise, a perceptive (and fast) ear, and an astounding work ethic to elevate the performance of a system to unexpected heights. Several manufacturers have hired Trayle to install their products in my listening room (and at shows), and for good reason—he gets consistently superlative results. You can see what Stirling does at audiosystemsoptimized.com. The installation took a full two days, nearly all that time devoted to loudspeaker placement.



Göbel High-End Divin Noblesse Loudspeaker and Divin Sovereign Subwoofer

The Divin Noblesse offers two pairs of binding posts for bi-wiring or passive bi-amplification. This suited the CH Precision M10 amplifier; each amp can be configured as a monoblock or as a two-channel amplifier. We operated the pair of M10 amplifiers in passive bi-amplification mode; One channel of each amplifier drove the woofer section, with the other channel driving the midrange/tweeter. Of course, the Divin Noblesse can be powered conventionally by a single stereo amplifier or a pair of monoblocks. The Divin Noblesse was driven full-range, with the subwoofers low-pass filtered. The subwoofers were connected via a second line-level output from the CH Precision L10 linestage.

Switching loudspeakers after several years of living with the best loudspeaker I've had in my listening room (the Wilson Chronosonic XVX and Subsonic subwoofers) was a bit disconcerting. It took some adjustment to the different presentation, but once the Divin Noblesse settled in I came to appreciate this speaker's special qualities.

First, the Divin Noblesse is truly a full-range speaker with wide bandwidth and seemingly unlimited dynamic range. The Divin Noblesse's most salient characteristic is a lively upper midrange-to-lower treble region that brings detail to the fore. This speaker's resolution, transparency, and clarity through the midrange and treble were stunning; fine detail such as percussion instruments, a subtle background vocal, or a piano line played quietly beneath other instruments, were resolved with alacrity. I'll give you just one example that could stand in for many others. I've listened to the fabulous 1975 live Eric Clapton album *EC Was Here* on many systems, but never before heard on the track "Ramblin' on my Mind" that the drummer's ride cymbal has rivets. Also called a "sizzle cymbal," rivets give the instrument that shimmering sound and extended decay. The Divin Noblesse resolved the complex microstructure of the cascading transients and decays of the rivets with astounding precision. If you extrapolate this example to nearly every instrument, across all kinds of music, you'll get an idea of how the Divin Noblesse presents music with extraordinarily high level of detail.

This resolution and clarity weren't confined to the treble. The midrange was similarly resolved, a quality that was immensely rewarding in the Divin Noblesse's reproduction of the human voice. Vocals were projected into the listening room with palpability and presence. I was startled when I played the first track on Melody Gardot's album *Sunset in the Blue*; her voice was projected between and in front

of the speakers with vivid immediacy. Moreover, the Divin Noblesse revealed very fine nuances of expression, adding to the song's impact. This track could serve as another example of the Divin Noblesse's resolving power; the gently played acoustic guitar accompaniment in the background was portrayed with clarity in timbre, pitch, and dynamics on every note. Similarly, the speaker's lively midrange rendered vocals more intelligible. This clearer articulation allowed me to hear nuances of vocal expression with newfound ease and clarity.

Before hearing the Divin Noblesse, I looked askance at the 8" midrange driver (most are 6" at most), particularly an 8" midrange coupled to an AMT tweeter. Nonetheless, after living with this speaker, I have no reservations about the design. In fact, I must conclude that the Divin Noblesse is, through the midrange and treble, the highest-resolution dynamic loudspeaker that I've heard in my listening room—its presentation of detail and palpability approach that of electrostats and Magneplanars.

That said, there's a fine line between this presentation of rich musical detail and a bright, etched, and fatiguing sound. The Divin Noblesse walks right up to that line—but doesn't cross it, in my judgment. This is a lively, exciting, upbeat—even thrilling—sounding speaker, but what kept the Divin Noblesse from veering into the realm of

excessive brightness was the speaker's purity, textural liquidity, lack of grain, and absence of metallic sheen (common to hard-dome tweeters). Significantly, the Divin Noblesse didn't suffer from top-octave tizziness that emphasizes sibilance and imparts a synthetic sound to cymbals—a sound likened to that made by a spray can.


The top-octave smoothness and liquidity (in addition to the finely filigreed resolution of detail) allowed the speaker's midrange and lower treble to sound illuminated without the entire presentation deviating into excessive brightness. It's a delicate balancing act, but one that the Divin Noblesse pulls off with almost miraculous ease. The 5.6" Mundorf Air Motion Transformer tweeter, here modified by Göbel and mounted in a custom waveguide machined from an aluminum block, is a spectacular transducer. It has tremendous life, air, light, extension, and speed, yet never sounds etched or fatiguing. Jonathan Valin's evocative phrase, "illuminated from within," which he first used to describe the sound of Audio Research electronics, came to mind.

These qualities rendered music with an upbeat sense of life and energy. When Joe Pass comes in for the last solo

"...once the Divin Noblesse settled in I came to appreciate this speaker's special qualities."

GEBEL

DIVIN NOBLESSE



GEBEL HIGH END
WWW.GEBEL-HIGHEND.DE
SERIAL: DMB1828M024 R

Divin Sovereign Subwoofer

GÖBEL'S BRAND-NEW Divin Sovereign subwoofer is an active, DSP-controlled unit designed along the same principles as the other speakers in the Divin Series. The sub features a single 18" driver in a sealed enclosure, driven by a 2500-watt integral power amplifier. Setup and control are handled via an Android or iOS interface; you simply plug a Wi-Fi dongle into a port on the back of the subwoofer to create the connection. Note that the subwoofer doesn't join an existing Wi-Fi network; it creates its own network with the dongle. There's no need to download an app; the dongle creates the interface. You remove the dongle after you have finished the setup.



Adjustments are made through a graphic user interface and include gain (subwoofer volume), low-pass filter frequency and slope (6dB, 12dB, 18dB, and 24dB per octave), high-pass filter and slope, filter type (Butterworth, Linkwitz, Bessel), phase, and delay. There's also a powerful eight-band parametric equalizer, with frequency adjustments of 1Hz and 0.5dB boost-or-cut steps. A separate control adjusts the bandwidth ("Q") of the filters. You can program and save four separate setups in the sub's memory and recall them from your phone or via a rear-panel switch if the Wi-Fi dongle is no longer connected.

The massive 18" driver is of Göbel's design. It is essentially a scaled-up version of the 12" unit in the Divin Noblesse. The paper-pulp cone is resin-coated to increase damping and is driven by a 100mm voice coil wound around a fiberglass former. Göbel says that the driver's moving mass, including the air load, is only 247 grams. The faceted enclosure is made with constrained-layer damping of varying thickness (1.6" to 2.8") with extensive internal bracing to stiffen the cabinet. The sub has one pair each of RCA and XLR inputs, along with one pair each of RCA and XLR pass-through outputs. The sub can be triggered to turn on and off via a 12V trigger input. The enclosure, drivers, DSP programming and software, and internal amplification are all made in Germany.

on the track "Contractor's Blues" from the Count Basie LP *88 Basie Street* (original Pablo LP), his hard-swinging entrance prompts the band to kick up their game to meet him. A few bars into the solo, the drummer emphasizes the rhythm with rim shots that lock in the groove, taking the energy to the next level. The Divin Noblesse reveals, with tremendous alacrity, these kinds of nuances of musical expression.

Another virtue of the Divin Noblesse's lively upper midrange is its clarity of line and ability to resolve individual instruments and notes without smearing or congestion. The album *Mirror Mirror* by Brazilian pianist Elaine Elias is a series of piano duets alternating between her and one of her two musical idols, Chick Corea and Chucho Valdés

(the album won the Grammy in 2021 in the Best Latin Jazz Album category). The at-times fiery interplay between the two musicians could sound confused or congested through a lesser speaker, and the energetic Latin rhythms diluted by less-than-precise articulation of each note. The Divin Noblesse beautifully portrayed the two 9' grand pianos as separate instruments, and in doing so, revealed the marvelously sympathetic interplay between Elias and Valdés or Corea. Each track was recorded live in the studio with the pianos facing each other; the Divin Noblesse wonderfully recreated the sense of spontaneous occasion of these remarkable performances.

Even without the subwoofers engaged, the Divin Noblesse went satisfyingly low in the bass, with plenty of weight and power. The subs added that extra measure of fullness, bass dynamics, and, of course, the expanded soundstage provided by reproducing low-frequency spatial cues. The subwoofers added that "subterranean" component on organ recordings that you can't get even from the largest full-range speakers, as well as more weight and impact to kickdrum. A pair of 18" woofers can move an awful lot of air in the lower-most octave.

The bass had a nice bit of extra bloom and color, although I wouldn't characterize the speaker as having a "bottom-up" presentation. Rather, the Divin Noblesse delivered a satisfying fullness in the music's foundation, from the power range in orchestral music to the visceral purr of a Fender Precision bass. It is common for speakers to sacrifice pitch precision and transient performance for this warmth and bloom, but that wasn't the case with the Divin Noblesse. The speaker had superb resolution of bottom-end information, with no smearing of transients, blurring of pitch, or dilution of timbral detail. Kickdrum was tight and controlled, with no overhang or bloat. Bass guitar was reproduced not just as low-frequency information, but as strings plucked by fingers on the fretboard, with superb resolution of the starts and stops of notes and precise inner detailing of the instrument's texture. The Divin Noblesse beautifully revealed the artistry of some of my favorite bass players. The combina-

Göbel High-End Divin Noblesse Loudspeaker and Divin Sovereign Subwoofer

tion of this level of resolution with weight and fullness was immensely satisfying. A great track that highlights this synergy is the title track from Spirogyra's album *Down the Wire*, which features some funky, virtuoso, body-animating electric-bass playing. I was surprised by how well the Divin Noblesse resolved the pitches and dynamics of bass lines played on the Hammond B3's pedals by the late organist Joey DeFrancesco in his guest stint on Lee Ritenour's *Six String Theory*. The Divin Noblesse could get away with its touch of extra bloom and warmth in the bottom end simply because the bass sounded so precise and detailed.

In this issue's From the Editor, I observe that high-sensitivity loudspeakers seem to have certain sonic qualities quite apart from needing less amplifier power. One of these qualities is dynamic verve—the sense of suddenness on transients, of a more vivid projection of the music into the listening room, and of a feeling of ease on musical peaks, particularly at high playback levels. That pretty much describes the Divin Noblesse; the speaker had an exciting, visceral, upbeat immediacy that was reminiscent of a horn design but without horn colorations. In fact, the Divin Noblesse's dynamic performance was one of its best qualities; it went loud effortlessly, reproduced transients with speed and articulation but no fatiguing etch, had virtually no overhang or smearing, and never sounded congealed even during the most complex passages.

CONCLUSION

When considering a quarter-of-a-million-dollar loudspeaker, the performance bar is high, indeed. But the Divin Noblesse clears that bar with its outstanding musicality. This is an immensely communicative speaker by virtue of its stunning midrange and treble resolution, dynamic verve, and transparency. I had many thrilling listening sessions with the Divin Noblesse—thrilling in a raw, visceral, almost primal way. This isn't a polite speaker that engages the intellect at the expense of conveying the immediacy of performers making music in the moment.

If you're in the market for a loudspeaker of this caliber, the Göbel Divin Noblesse should be on your short list to audition. You may find that its combination of virtues as compelling as I did.

SPECS & PRICING

Divin Noblesse Loudspeaker

Type: Three-way dynamic loudspeaker
Driver complement: 12" woofer (x2); 8" midrange (x2), AMT tweeter (x1)
Frequency response: 21Hz–24kHz (–3dB)
Impedance: 4 ohms (3.8 ohms minimum at 100Hz)
Sensitivity: 95dB 1W/1m
Finishes: Piano black lacquer (custom finishes on request)
Dimensions: 56cm x 168cm x 82cm
Weight: 260kg (572 lbs.) each, net
Price: \$250,000/pr.

Divin Sovereign Subwoofer

Type: DSP-controlled, integrally powered subwoofer
Bass extension: 10Hz (–3dB point)
Driver: 18"
Integral amplifier power: 2500W
Control: iOS or Android device
Finishes: Piano black lacquer (custom finishes on request)
Dimensions: 54 x 78 x 60cm
Weight: 145 kg (319 lbs.) each, net
Price: \$29,500

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ASSOCIATED EQUIPMENT

Analog source: Basis Audio A.J. Conti Transcendence turntable with SuperArm 12.5 tonearm; Air Tight Opus cartridge; CH Precision P1 phonostage with X1 power supply; DS Audio ST-50 stylus cleaner, Levin record brush, Degritter ultrasonic LP cleaner
Digital source: Wadax Reference DAC, Wadax Reference Server, UpTone Audio EtherREGEN Ethernet switch
Amplification: CH Precision L10 Dual Monaural linestage; CH Precision M10 Dual Monaural power amplifiers
AC Power: Shunyata Everest 8000 conditioner, Shunyata Omega and Sigma NR V2 power cords; Shunyata AC outlets, five dedicated 20A lines wired with identical length 10AWG; two Göbel AC power cords (powering the subwoofers)
Support: Critical Mass Systems Olympus equipment racks and Olympus amplifier stands; Center Stage² isolation, Arya Audio RevOpods isolation
Cables: AudioQuest Dragon interconnects, AudioQuest Dragon Zero and Dragon Bass loudspeaker cables
Grounding: Shunyata Altaira grounding system
Accessories: The Chord Company GroundARRAY noise reduction
Acoustics: Acoustic Geometry Pro Room Pack 12, ASC 16" Round Tube Traps
Room: Purpose-built; Acoustic Sciences Corporation Iso-Wall System

Designed From the Ground Up

You can see my interview with Oliver Göbel at The Absolute Sound's YouTube channel, [youtube.com/@TheTASmagazine](https://www.youtube.com/@TheTASmagazine).

THE DIVIN NOBLESSE employs advanced materials and techniques that are a departure from the standard fare in dynamic loudspeakers. The more I learned about the speaker's design, the more impressed I became; a lot of serious engineering went into every aspect of this speaker, down to the smallest detail.

The enclosure is made from Melamine, a resin-bonded wood-fiber product that is pressed under high temperature. Göbel contends that the material is ideal for loudspeaker enclosures due to its combination of high stiffness and excellent damping. The enclosure is made with constrained-layer-damping techniques with varying wall thicknesses. The baffle supporting the midrange and tweeter is a whopping 80mm (3.15") thick. I counted 39 facets on the hourglass-shaped enclosure; the facets' size, angle, and location are designed to reduce diffraction, control dispersion, and aid in linearizing the speaker's phase behavior, as well as create internal chambers with no parallel surfaces. The angular hourglass shape provides the narrowest possible baffle for the 5.6"-tall Air-Motion Transformer tweeter in the center of the hourglass. The Divin Noblesse's shape, as well as its acoustic performance, was optimized in the massive (36' x 33' x 29') anechoic chamber at the Deggendorf Institute of Technology, which is about 50 miles away from Göbel's factory. The chamber is a "room-within-a-room" design that is isolated on springs and features damping wedges nearly 6' deep, which provides 99% reflection-free measurements down to 45Hz.

The Divin Noblesse uses a minimum of damping material within the woofer enclosures in the belief that such damping smears impulse response and degrades fidelity. Göbel replaced the traditional absorbent damping material with an in-house-developed Helmholtz resonator, coupled with a ceramic foam, that absorbs the woofer's back wave. The Helmholtz resonators are tuned to the frequency of the standing waves, essentially eliminating them with a minimum of damping.

The two 12" woofers are front ported with four symmetrically positioned ports on the baffle surrounding each woofer. The idea is that four symmetrically placed ports provide more consistent load on the woofer than a single port, resulting in less "wobble" of the woofer due to air-pressure variations inside the enclosure, which can result from a single asymmetrically positioned port.

Separate chambers inside the enclosure isolate the drivers from one another, and from the crossover. The speaker has six separate chambers—one for each driver plus one for the crossover. These sub-enclosures are designed with no parallel surfaces to reduce standing waves. As with the woofer sub-enclosures, the midrange chambers employ a minimum of damping material in the belief that such damping degrades transient fidelity. The lit-



tle damping that is used is a special combination of ceramic foam and a mix of several different fiber materials. Internal bracing is augmented by kinetic, mass-tuned damping mechanisms mounted on the rear of the midrange sub-enclosures. These devices employ moving parts within a resonant system that counteracts the resonance of the surface to which it is attached. The moving mass can be tuned to resonate at a specific frequency, in this case the primary midrange-enclosure vibration modes. (Mass-tuned dampers are built into building structures in earthquake zones to reduce the building's movement during an earthquake.) Göbel's expertise in bending-wave physics informed the enclosure design and its anti-resonant properties.

The enclosure is finished in real polyester piano lacquer, not furniture lacquer or automotive paint. Göbel contends that piano lacquer is harder and more durable than automotive paint, is impervious to humidity, and will maintain its look much longer. The finish benefits from 20 coats of lacquer, with hand-polishing between coats. Indeed, the finish of the Divin Noblesse review samples was flawless, with an ultra-smooth mirror-like surface.

Looking next at the drivers, all are Göbel's design, except the AMT tweeter, which is sourced from Mundorf. Göbel heavily modifies the 5.6"-tall AMT driver with a resonance-killing rear chamber behind the diaphragm. The AMT is mounted in a waveguide machined from solid aluminum billet, whose shape modifies the tweeter's dispersion to match that of the midrange driver's at the transition point between the two drivers. Without such a waveguide, the tweeter's dispersion at the crossover point would be much wider than the midrange driver's dispersion at the highest frequency of its operating range. The crossover point between the 8" midrange driver and AMT is a surprisingly low 1.6kHz.

Although Göbel offers the Epoque series of speakers that employ bending-wave drivers, the three models in the Divin series use piston cone drivers, not bending-wave transducers. Nonetheless, Oliver Göbel has applied his specific expertise in

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bending-wave drivers to improve the performance of the Divin Noblesse's pistonic woofer and midrange driver.

Bending-wave drivers are made from a flexible membrane that is driven at one point on the membrane; sound is created as the wave traverses the flexible membrane's surface from the point where it is driven to the membrane's edge. Think of a ripple moving across the surface of the flexible membrane, launching sound waves from the membrane as it moves.

This approach to creating sound is diametrically opposed to the operation of conventional cone drivers, in which such non-pistonic motion is avoided at all costs. Flexing of the cone in a dynamic loudspeaker is called break-up, a significant source of distortion. Driver designers search for ultra-stiff diaphragm materials to avoid cone break-up.

By understanding bending-wave mechanisms (such drivers were the focus of Oliver Göbel's university study, work experience, and granted patent), Göbel could apply that knowledge to avoid bending-wave behavior in a pistonic transducer. In essence, the concepts that Göbel learned to make a bending-wave driver work are here employed "in reverse" to reduce resonances and non-pistonic motion in a cone driver.

Both drivers were designed from the ground up, right down to the basket material and basket shape. The design goals were strength, rigidity, and efficient ventilation to facilitate heat removal from the voice coil. The voice-coil former (bobbin), spider, surround material, damping materials, and even the glues were all researched and developed specifically for these drivers. The voice coils are oversized (2.6" for the 8" midrange, 3" for the 12" woofer), and the neodymium magnets and motor parts are well ventilated. All the metal parts in the motor are epoxy coated to dissipate heat more efficiently.

The 8" midrange driver's diaphragm has a very shallow profile, features specially designed surrounds, and even uses custom glues that further damp high-Q resonances. The cone and the surround undergo a multistage treatment process that includes a proprietary coating to control resonances and dispersion. In addition, much attention was paid to avoiding heat-induced dynamic compression, with a well-ventilated basket/magnet design, lightweight spiders, and glass-fiber voice-coil formers with oversized voice coils. The cone material is also of Göbel's own design, a mix of paper pulp reinforced with carbon fiber and glass fiber that Göbel believes sounds more natural than metal, carbon-fiber, aluminum, or ceramic diaphragms. Paper-based diaphragms are also inherently better damped (less prone to ringing).

It's interesting that some designers working at the edge-of-the-art in loudspeaker design are returning to paper-pulp diaphragms, the original cone material that was the standard for decades. The rapid advances in materials technology of the last 30 years have brought us exotic cone materials including ceramic, coated aluminum, carbon-fiber, fiberglass, diamond coating, beryllium, and elaborate sandwich construction of thin skins

surrounding a lightweight foam. All these materials theoretically perform better than paper cones, but some recently developed loudspeakers made from paper-pulp diaphragms have been contenders for the state of the art; the Wilson Chronosonic XXV and the Stenheim Alumine Five SE were both named our Overall Product of the Year Award winner in different years. (Jonathan Valin talks about Stenheim's use of paper cones in his review in Issue 328.) We can now add the Göbel Divin Noblesse to the list of paper-based loudspeakers that deliver world-class sound quality.

An important design goal was creating drivers with low moving mass. The 8" driver's moving mass, including the air load, is just 17 grams. The woofer's figure is 75g. Göbel claims that the combination of its motor system, basket design, and low-mass diaphragms result in superb impulse response and transient performance.

A significant benefit of all these engineering techniques is that the woofer and midrange driver are very efficient. Indeed, making a speaker with high sensitivity and an easy-to-drive impedance was a chief design goal. That goal was achieved; the Divin Noblesse has a true sensitivity of 95dB along with a flat impedance curve with no nasty impedance dips (the impedance minimum is a benign 3.8 ohms). As explained in this issue's From the Editor, speaker sensitivity is an important parameter worthy of closer consideration when choosing a loudspeaker and matching it to a power amplifier.

The crossover is located in a separate sealed chamber within the enclosure to avoid acoustic energy impinging on the circuit. Then, each section of the crossover (the tweeter, midrange, and woofer circuits) is individually housed in its own chamber and sealed with epoxy resin to prevent electrical and magnetic coupling. (In the 1990s, there was a famous and popular speaker whose sound could be improved simply by adjusting the orientation of one inductor on the crossover board, which reduced its magnetic interaction with the other crossover components.) The Divin Noblesse's inductors are potted with epoxy resin before the second potting step within the crossover's sub-enclosure. The crossover parts are the finest available: Duelund silver CAST resistors, CAST foil inductors, Mundorf Silver/Gold/Oil caps, and air-core inductors. The crossover points are 140Hz and 1.6kHz. The series inductor on the woofer is reportedly massive, both to achieve such a low crossover frequency and to reduce losses. Internal wiring is based on Göbel's Lacorde Statement cables. The Divin Noblesse has two pair of binding posts; the woofer crossover section is electrically separate from the midrange/tweeter section. This allows the speaker to be bi-wired or passively bi-amplified, with one amp driving the woofers and a second amp driving the midrange and tweeters.

Finally, the Divin Noblesse rests on four proprietary feet in which the speaker's weight is coupled to stainless-steel feet through Silicon Nitride ceramic balls—a design said to perfectly couple the loudspeaker to the floor. **tbs**