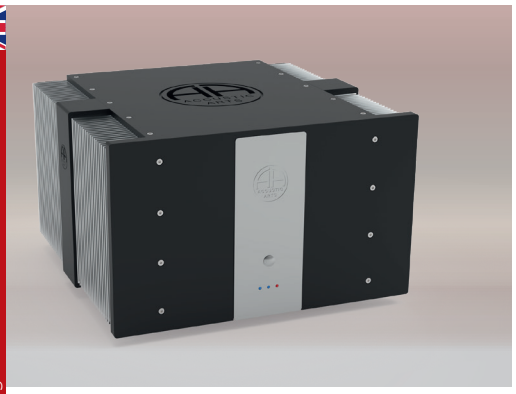
FIDELITY

VIRTUAL HIGH END

2020

Virtual High End 2020



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AN OVERVIEW OF MORE THAN 800 TESTS AND EQUIPMENT REVIEWS

For the first time ever, FIDELITY is providing its readership with the opportunity to be able to search for specific tests and product reviews. We have also been looking into the most exciting new releases for 2020.

This is actually the 50th issue of FIDELITY. The shelves, here in the Editorial team's office, holding copies of all the previous issues paint an eclectic picture. They show just how many changes the magazine went through before we arrived at the current format. Reaching the 50th issue milestone is only a small achievement though compared to the fact that next year we will be celebrating our 10th anniversary. Nevertheless, we decided that this nice round figure of half a hundred was certainly a good enough reason for us to release a special issue brimming with interesting info. With that in mind, we set ourselves the mammoth task of going through all the previous issues—to our own amazement, based on a rule-of-thumb calculation, this meant just shy of 8,500 pages containing well over 1,000 tests and other articles.

Our readers have often asked us to put together a comprehensive overview that would allow them to search for specific tests and products, for example so that they could then find the test in their own collection of FIDELITY issues or reorder an article in the form of an e-paper or a physical magazine. The good news is that it's here!
The following pages detail all the devices and loudspeakers ever critiqued in FIDELITY as well as our complete back catalog of accessory reviews. (The table is located in the German part, to be read from the back.) The even better news is that the whole thing will also be available in the future on our homepage at www.fidelity-online.de. What's more, we will continuously update it and, thanks to the wonders of the Internet, it will also feature a handy Search function. Our online overview will also be even more comprehensive as it will also contain company profiles, stories, service articles and reports. Unfortunately, these had to be omitted from the printed version due to space restrictions.
You will also find a selection of write-ups, interspersed throughout the overview of previous articles, about new products that we were unable to get up close and personal with at this year's canceled HIGH END 2020. Our authors have been quizzing manufacturers and have managed to put together a virtual HIGH END 2020 for you using all the information they found out.

That's enough talking for now though. We hope you really enjoy our special edition.

C. Boubede

Digitale Audio Systeme HD-Player Model 2

DIGITAL UNIVERSAL PLAYER ENJOYS THE BEST OF BOTH WORLDS

The Vienna-based firm Digitale Audio Systeme (DAS) takes its cue from analog music playback but makes only digital playback devices. Its products combine the sound quality of analog high-end components with the convenience of digital. The aim is to ensure non-physical media, whether files from a hard drive or files off the internet, sound at least as vivid and enticing as vinyls. The Model 2 is designed as a fully integrated digital playback device and comprises a hard-drive player, a streamer, and a DAC, which play all of today's usual digital audio formats (PCM as well as DSD) with exceptional sound quality. The device can be controlled either the old-fashioned way by using the buttons on the front or with a smart device. An Apple iPad is actually included in the delivery as standard, but the Model 2 is also compatible with Android devices.

The masterful engineering efforts are readily apparent in the use of exceptionally high-quality components as well as in the 20-kilogram housing construction that employs a chamber system to minimize any interference between the electronic functional units. The various sections of the HD player are galvanically isolated and boast separate

power supplies to create optimum interference-free working conditions for each unit. The DAC alone utilizes three toroidal transformers.

Preventing any interference is also a priority for the structural setup with the DAC configured in a dual mono setup with firmly channel-separated converter boards, galvanic isolation, and separate power supplies. That means crosstalk is never an issue. The R-2R NOS DAC chips used by DAS feature integrated current/voltage (I/V) conversion, so no external output stage is required for the Model 2. "Since eight DACs are implemented per channel; they produce sufficient power to drive any downstream equipment," promises the manufacturer. This ensures easily keeping the signal path to an absolute minimum. All very minimalist and clever. The DAC has a fully balanced layout. But along with the XLR outputs, unbalanced RCA connections that work with high-performance Lundahl transformers are also available. All this effort results in breathtakingly realistic, natural, and impressively three-dimensional music playback—reminiscent of the sound provided by the best analog playback devices. With its pointer-style gauges and its functional buttons, which are easy to operate even without reading the operating instructions, the Model 2 successfully manages to channel all the charm and allure of the golden hi-fi era. The music machine's display shows, for example, album covers, blurbs, and other information about artists and composers, all of which helps to smooth the transition from the world of analog. Anyone who has so far been wary of the idea of listening to music off the internet or from a hard drive will find the Model 2 from DAS to be the perfect partner. ▪

Digitale Audio Systeme is a small-scale manufacturing company specializing in the design, development, construction, and sale of exceptionally high-quality digital music playback devices. It boasts small production runs, an impressive level of craftsmanship, and a great deal of meticulous development work.

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Nubert X-Room Calibration

ONE TAP— AND YOUR BASS IS UNDER CONTROL!

Nubert's automatic X-Room Calibration can optimize bass reproduction in any listening room. The smart software already supports eight products.

They rumble, they boom, they flutter: We don't want to go so far as to say that listening rooms represent the most hostile of all enemies standing in the way of sheer undisturbed music enjoyment. But they certainly exert one of the most difficult-to-fathom influences on sound quality. There's a reason why they're referred to as the biggest component in any system. And what's more, people often find themselves helplessly at their mercy. The uncontrollable buildup of deep bass resonance in particular can only be kept in check with masses upon masses of acoustic modules. But this remains pretty much out of the question if the listening room needs to double as a space to live in. But there is an alternative solution: With a bit of clever thinking and helpful mathematics, spatial room issues can be brought under control even without employing a truckload of absorbers.
The Nubert portfolio includes a range of products (details can be found on the next double-page spread) that can be controlled using the

The nuConnect ampX lives up to its name as it functions as the control center connecting the loudspeakers and the subwoofer. But with its 2 x 110 watts, it can also operate passive speakers and boasts plenty of inputs—including phono (MM/MC) and USB-DAC. And it's available at the affordable price of €689.

X-Remote smartphone app. This is incredibly practical as it connects with the devices over Bluetooth Low Energy (BLE), thereby saving energy and removing the need for any fiddling around to establish a network connection. As I'm sure you've already guessed, the latest version of the remote control software (1.2.1 or higher) provides access to a DSP-based room correction function. All X models made by this southwest German manufacturer are compatible, including: the nuPro XS-7500 soundbar, the nuSub XW-700 and 900 subwoofers, and the nuPro X-3000 RC, 4000 RC, 6000 RC, and 8000 RC active loudspeakers as well as the powerful yet compact nuConnect ampX integrated amplifier.

Setting up the bass correction feature couldn't be easier: The calibration process is launched through the app. The smart device then analyzes the room's properties using test tones and calculates how best to correct the acoustic effects. To do this, it positions up to 10 equalizers within the range of 20 to 160 hertz. In a last step, the specifications derived from the correction work are transferred to the loudspeakers, the woofer, or the amplifier. That's it! There's just one little catch: X-Room Calibration only works with the iOS version of the Nubert app (see info box p. 009).

If you're an Android fan, you just need to invite an Apple user over for a tea or coffee. The calibration process takes barely five minutes but has a dramatic effect. We got the opportunity to test X-Room with the ampX and were quite impressed with how much more controlled, punchy, and precise the bass sounded following the straightforward calibration process. And you don't have to feel tied down either as the app allows you to save various calibrations as presets. Its beauty lies in its simplicity! ▸

STRONG FAMILY TIES

It's not only the automatic bass correction function that makes Nubert's X devices so special: All the siblings all get along famously.

Just think about the portfolio for a minute: A soundbar, two subwoofers, two different active floor-standing speakers, and two different active compact speakers as well as a smart integrated amplifier. How does that sound? Exactly—it's everything you could possibly need to cover all eventualities in the world of hi-fi and (two-channel) home cinema. X Connect is the name of Nubert's technology for connecting all eight components. And the best thing about it? It works without any irritating wires.

The simplest connection is between the active loudspeakers in the nuPro-X series. All four models are connected to stereo pairs without using any separate cables; in each case, one of the two loudspeakers operates as the master. The sources need to be connected to that speaker's inputs. The partners communicate over high-bit audio, so their wireless connection is completely lossless.

Things get a little more complicated if the subwoofers also need to be wirelessly connected. This is where the nuConnect ampX comes into play as it takes on the role of the master and supplies the signals—including, by the way, phono MM and MC. The amplifier communicates between the nuPro loudspeakers or the soundbar and a subwoofer. In this case, the room correction function is only available to the woofer—and deliberately so as the frequency range from 20 to 160 hertz is ultimately its domain.

This enables the eight X siblings to cover every conceivable application: From compact teenagers' bedrooms to enormous living rooms, the Nubert devices oversee all types of environments. ▪

The four active loudspeakers in the nuPro series serve as perfect desk monitors, but can also fill entire halls with sound. The smallest of them is the X-3000 RC (price per speaker: about €645); the top model is the X-8000 RC (price per speaker: about €1,845), which boasts an impressive 840 watts per channel. The other two (the X-4000 RC and the X-6000 RC) bridge the gap in the middle. In addition to USB, they also, of course, offer analog and digital inputs as well as Bluetooth with aptX-HD.

Nubert's beefy nuPro XS-7500 is a complete system wrapped in indestructibly robust housing. Its 4 x 90 watts plus 2 x 110 watts for the integrated woofers really leave nothing to be desired. In addition to digital and analog connections, the system offers Bluetooth with aptX-HD and, of course, HDMI. The price for it is €1,470.

Compact, powerful, and programmable using an app: Nubert's new depth-plumbing nuSub XW-700 (about €495) and XW-900 (about €625) can be controlled from the ampX wirelessly or the traditional way. The wireless option is more exciting though as you can place the woofers precisely where they need to go to achieve optimum performance. An encoder on the rear of the housing grants swift access to the most important parameters.

Why only Apple?

Nubert's choice is not a matter of preference. The simple truth is that the remote control app requires a calibrated microphone to obtain meaningful and conclusive measurement results for its calculations, and only iOS devices have this. For years, Apple has been using similar microphones in its devices and passing on their relevant data to software developers. In principle, the calibration process would also work with Android devices, but the number of providers alone (HTC, Samsung, and Huawei, etc.) gives you an indication of just how diverse the range of devices and equipment used throughout the Google galaxy is …

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Kharma Enigma Veyron 2D

ICONIC LOUDSPEAKER HANDCRAFTED IN THE NETHERLANDS

Kharma has reached iconic status. The loudspeakers conceived by Dutch developer Charles van Oosterum assist countless companies to demonstrate top-end audio electronics. The Enigma Veyron collection, the company's flagship line, encapsulates the very best of loudspeaker technology.
The Enigma Veyron 2D is the product of an evolutionary process spanning many years and truly breaks new ground in all the areas most crucial to sound quality. Early on, the developers in Breda turned to using diamond-shaped tweeters that, like the mid-ranges and basses, are manufactured following an in-house recipe. The immense depth of in-house manufacturing operations is clearly paying dividends as Kharma loudspeakers have joined the elite club of super speakers. Van Oosterum's design of the housing using the resonance-free hardened panel material Panzerholz, meant he could both employ curved shapes to prevent standing waves and implement a symmetrical chassis configuration to create a four-way speaker that comes very close to the ideal embodiment of a point source. This much precise three-dimensionality and this level of accurate depth and breadth scaling are usually reserved for compact loudspeakers. At a regal height of just under two meters, the Enigma Veyron 2D is the not-so-little sister of the company's flagship speaker, the Enigma Veyron 1D, and can, thanks to its 500-watt RMS power per channel and maximum sound pressure level of 120 decibels, unleash some serious musical hurricanes. But this masterpiece of loudspeaker architecture never loses its sophistication and never fails to demonstrate its impressive virtues (homogeneous sound quality, rich spectrum of tones, and clearly defined three-dimensionality) even at room volume.
What's more, when it comes to amplifiers the seductive hourglass-figured Kharma Enigma Veyron 2D doesn't have a wicked bone in its body: Boasting efficiency of 93 decibels and a minimum impedance of 3.4 ohms, the speaker can also be driven with tube amplifiers, which gives it a chance to paint a whole rainbow of different tones. Given its two 11-inch Omega F bass drivers, the deputy flagship model can also build up the kind of bass pressure needed for spirited drum solos as well as for massive orchestral *tutti* sections in order to achieve an authentic listening experience. Kharma's sophisticated bass driver was, incidentally, the first ever to be designed without any iron to speak of. The carbon cage and the F-magnets prohibit any disruptive magnetic fields. The 7-inch mid-ranges, also manufactured in-house at Kharma, ensure voices are reproduced completely free from any tonal discoloration, setting new benchmarks. Kharma almost manages to square the circle with the Enigma Veyron 2D: It's a very serious speaker that exudes effortless confidence and when fed the right music transforms into a fun speaker—with an ability to get your feet tapping that just shoots right off the scale. And anyone keen on finding corresponding amplifier electronics will definitely not be disappointed with Kharma. This might just signal a successful conclusion to the search for the best-sounding system out there. ▪

Kharma was founded in 1982 by Charles van Oosterum. With the company's pioneering technology and traditional craftsmanship, Kharma aims to provide music fans with listening experiences that go "beyond imagination," which, at this family-run company, also means heading away off the beaten track.

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IsoTek PSU 124

OPTIMAL POWER…

The power supply is, without doubt, one of the choke points of high-end music playback. So you're truly fortunate if your devices have at least a built-in power supply unit and a resilient IEC connector to which a high-quality power cable can be connected. The situation looks very different when a manufacturer has opted for a separate power supply unit in a bid to keep interference low. This can either work wonders or turn out to be an absolute disaster. The power supply experts at IsoTek excel in this field and recently unveiled their new power supply unit, the PSU 124. This model boasts a variable output ranging from 1 to 24 volts as well as a 12-volt power supply. This gives users the flexibility needed to swap the power supply units they received as standard with their devices for the PSU 124 and thereby achieve new dimensions in sound quality. It's a well-known fact that clean power with stable voltage has a direct positive influence on sound quality. The team at IsoTek puts in a lot of effort to enable audible improvements to be achieved even by those who've been having to make do with the almost inevitable limitations of separate power supply units. The PSU 124 is anything but a cheap plastic box you just plug into a power outlet. It's a fully-fledged device-sized component encased in an aluminum housing

...SUPPLY

that, among other undertakings, helps provide protection against parasitic frequencies and vibrations. High-frequency interference is systematically suppressed in the PSU 124. The transformer windings have been shielded to minimize capacitive cross- talk between the primary and secondary coils and to prevent any stray-field emissions from occurring in the first place.

Permanent temperature monitoring ensures the inside of the PSU 124 maintains an average 20 degrees Celsius so the electronics can benefit from optimum working conditions. In the event the device starts to overheat because, for example, it was incorrectly set up, a control circuit pulls the ripcord at precisely 60 degrees Celsius and switches the PSU 124 off until it returns to its normal temperature. The positive effect achieved with the up-grade power supply unit is similar to using a power filter; combining both devices is a good idea. The voltage setting configured at the variable output of the flagship PSU 124 model is shown on a sharp and easy-to-read display. This helps users successfully avoid inadvertently "frying any connected devices that might draw up to three amps of current. A second type of protection to counter any inadvertent mistakes is, however, in place in the form of fast-acting micro-fuses that maintain vigilance. ▪

IsoTek was founded by British visionary Keith Martin who recognized the influence a clean power supply would have on the sound quality of electronic music playback devices. IsoTek is an award-winning market leader several times over in the field of high-end power filters and power cables.

IsoTek Power Systems Ltd, | Winchester, England | support@isoteksystems.com | Sales in Germany: info@mkidc.eu

Goya Acoustics Moajaza

THE FUTURE IS WIRELESS

The future has already arrived at Schmidt Acoustics in Marpingen in the German state of Saarland. The Goya Acoustics Moajaza is a prime example of how smart wireless technology can be used to create an active super loudspeaker. Inside the 1.24-meter-tall, 28-centimeter-wide, and 45-centimeter-deep housing lies a sophisticated three-way design: The 30-millimeter Accuton black diamond tweeter, the 16.8-centimeter-diameter Accuton ceramic mid-range, and the three Accuton basses in an aluminum sandwich construction are driven by class-D electronics. The Goya Acoustics Moajaza tackles any disruptive vibrations by employing a housing made from mineral-organic material. This results in a reassuringly solid weight of about 100 kilos per speaker.
The inner workings are also of the highest quality, with the Goya Acoustics Moajaza boasting a room audio processor that both ensures optimum room correction and guarantees interruption-free playback. This loudspeaker does, of course, feature DLNA and Airplay and is Roon Ready. The manufacturer relies on its in-house-developed PLC wireless technology here so each loudspeaker requires nothing more than a power cable for it to stream music in high-resolution quality. Fans of analog sources, from turntables to tape recorders and tuners, will find a corresponding high-level input. Those who prefer digital sources can make use of the Goya Acoustics Moajaza's DAC, which also handles high sampling rates as well: The door to "hi-res audio" has been blown wide open. Streaming in several rooms is also a breeze with the Goya Acoustics Moajaza.
To ensure the magnificent sound quality doesn't fizzle out en route to the listener, an amplification solution was chosen that's bound to be a sure-fire hit: The 1,500 watts per class-D structure ensure even high levels and hefty pulsating bass frequencies are reproduced without any distortion. The experts at Merlin are responsible for the internal wiring, and "RevOpod" feet not only ensure a stable setup but also decouple the Goya Acoustics Moajaza from any impact and structure-borne noise. The loudspeaker is available in black or white with a refined sandblasted or piano high-gloss surface finish. Two special finishes are currently under development. ▪

Goya Acoustics/Schmidt Acoustics & Trading GmbH is an owner-run company set up in 2018–19 in Marpingen in the German state of Saarland. Founder Sebastian Schmidt is a qualified audio engineer and spent three years working in production at loudspeaker manufacturer Accuton. He founded the company together with his father, Hans-Joachim Schmidt. The Goya Acoustics Moajaza is an all-in-one system.

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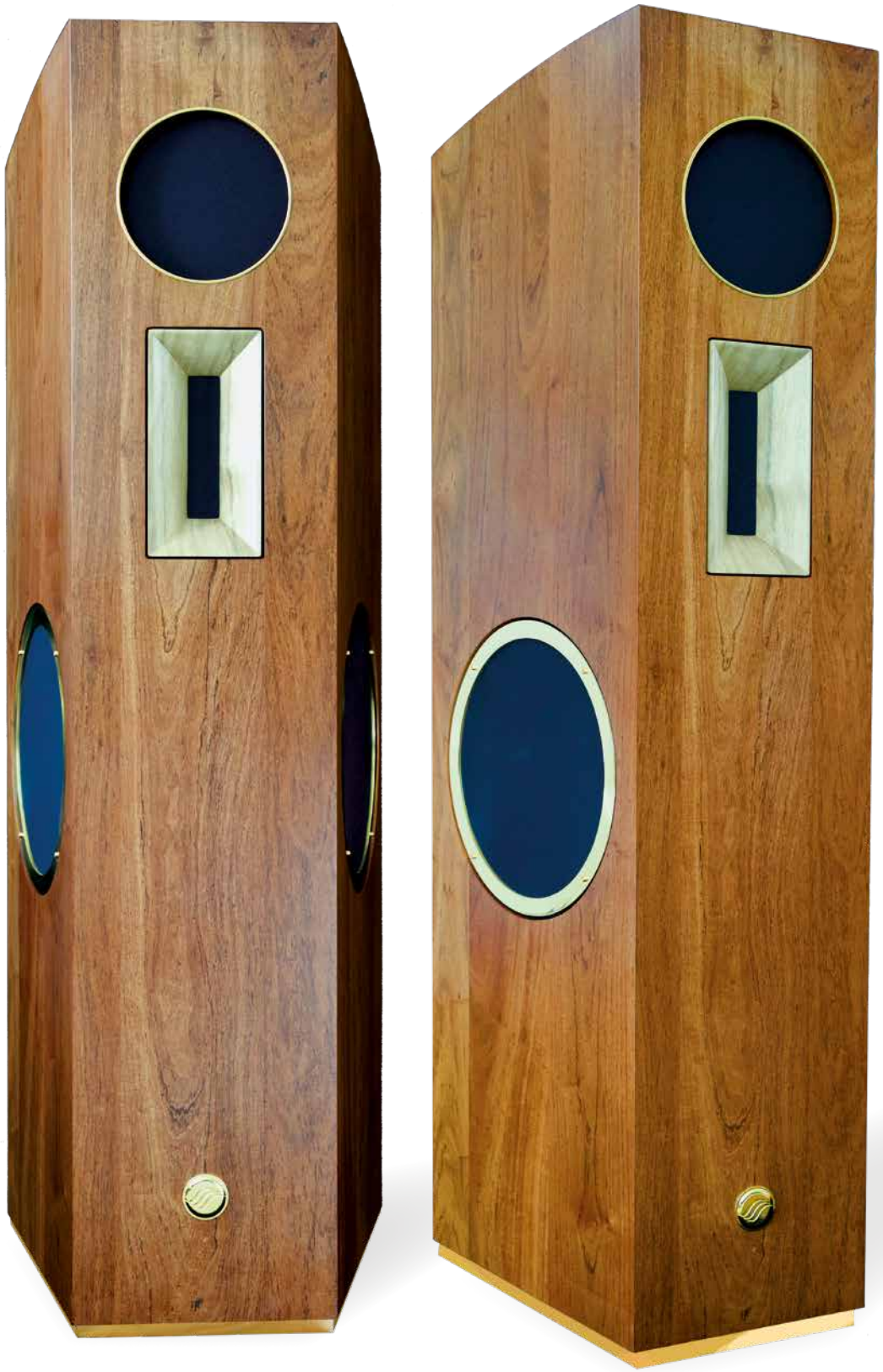

SoundSpaceSystems was founded by physicist Dr. Michael Plessmann, who has had a passion for music and audio systems for almost 50 years. The intention behind the loudspeakers designed by this Berlin-based think tank is to combine music, hi-fi playback systems, and technical perfection to provide the listener with an experience every bit as good as the real-life performance.

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SoundSpaceSystems Pirol

ACTIVE ALL-ROUNDER

If the requisite features for a super loudspeaker encompass 120 kilograms per speaker owing to a ceramic core, partially active principle with robust power amplifiers for the bass, and room correction by means of a DSP (digital signal processor), then the SoundSpaceSystems Pirol has it all. This is a speaker that boasts all the advantages of the horn principle without any of the disadvantages, thanks to the partially active control.

Generally speaking, enthusiastic fans of classical music should be just as happy with this slim floor-standing speaker—available in a selection of colors ranging from a piano finish through to bright blue—as jazz, pop, and rock fans. The Pirol's sensitivity of 97 decibels makes it the ideal partner in crime for tube amplifiers: They can manage to coax vibrant tones and subtle musical details out of this loudspeaker.

The manufacturer promises a truly deep bass that reaches down to as low as 20 hertz generated from a three-way system whose two 30-centimeter bass drivers fire to the sides in push-push operation (impulse compensation). Agility and an impressive dynamic range are the name of the game here: Designed in Berlin, the Pirol is, in the literal sense, a "fast" speaker yet one that doesn't lack in subtlety—a speaker truly made for the playback of hi-res media.

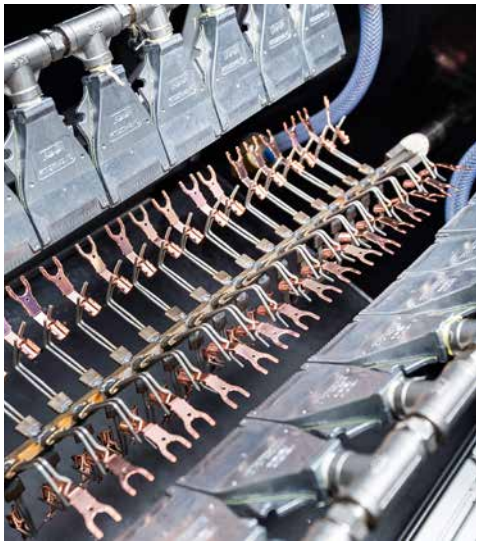
The tractrix horn assigned to the ribbon tweeter–mid-range works with perfect timing, creates exceptionally stable spaces, and achieves very clean placement of individual sound events. The horn driver also draws on the open baffle principle, which helps minimize distortion. The real crowning glory is the air motion transformer (AMT) ribbon tweeter, which enjoys legendary status in high-end circles: It ensures an extremely delicate and always sophisticated treble while also reproducing the presence range with pinpoint accuracy using the paper cone mid-range (with prechamber). A rear-firing ribbon supports the AMT tweeter at the highest echelons of the frequency range. Transparency, meticulous reproduction of details, and a total absence of any compression effects were the main development goals; an extremely minimalist crossover design is the unique selling point.

Measuring 1.24 meters tall, 44 centimeters wide, and 48 centimeters deep, the SoundSpaceSystems Pirol is still a suitable option for living rooms. You don't need a lounge the size of an industrial production hall. And you won't find any sharp straight edges here—standing waves don't stand a chance. What's more, the developers have drawn on ancient Greek music theory and the principles of feng shui. A solid foundation for creating a commanding all-rounder. ▪

WBT PVD PlasmaProtect™ Connectors

HIDDEN REVOLUTION

Last year, WBT unveiled one of the most exciting developments in the world of audio technology—and it's practically invisible to the naked eye This plasma coating has all the hallmarks of a revolution. But you don't need the best hearing in the world or a scientific test setup to be able to pick up on the clear improvement it provides in terms of sound quality. PlasmaProtect achieves greater reproduction precision and ensures more clearly defined sound events. It's like taking an already beautiful photo but magically conjuring up the power to make the image a whole lot sharper. One of the first manufacturers to make the clear switch from WBT's nextgen connectors to the new plasma version was cable guru Hans M. Strassner. His HMS cables enjoy an excellent reputation not only among high-end fans but studio professionals as well. Any stereo chain featuring HMS cables and plasma-coated WBT connectors will sound much more "to the point" and will dish out a crisper bass and a more refined treble, while the device connections fade into the background to allow the music itself to take center stage. In a direct comparison, it feels almost as if a curtain hanging in front of the loudspeakers were suddenly lifted when the "plasmas" got their turn to shine.



PlasmaProtect signals the end of traditional electroplating at WBT. Instead of using conventional gold-plating baths that give the copper components of the connectors and jacks a corrosion-resistant coating, the manufacturer now carries out the gold-plating using PVD plasma technology. PVD stands for "physical vapor deposition," and it's a cutting-edge type of nanotechnology: After being carefully cleaned in the high-current polishing bath, the unfinished parts enter a vacuum reactor that coats them with gold atoms by means of a plasma spray. This not only optimizes the sound properties, it also makes WBT PlasmaProtect connectors and jacks extremely hard to counterfeit: The hordes of copycat companies out there are keen to imitate what WBT has achieved, but fail miserably at carrying out the sophisticated and tricky coating process.

If you compare a connector coated using PlasmaProtect with a counterpart coated using conventional electroplating, you'll notice the coating of the PlasmaProtect connector is significantly more homogeneous. And the reward in terms of sound quality? Even hi-res chains gain an impressive amount of extra detail so that even very familiar recordings sound fresh, new and, in the best sense possible, unusual. With PlasmaProtect connectors, you feel like you're listening to many recordings for the very first time and you get to rediscover old favorites. ▪

WBT stands for Wolfgang B. Thörner who founded his innovative company in 1985, thus heralding the end of cheap connectors. A whole host of renowned consumer electronics manufacturers use WBT products "ex works."

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HiFi Rose RS150

INTUITIVE
SUPER-SOUNDING STREAMER

You can safely forget about having to navigate your way through confusing menus, be proficient in several programming languages, and sign up with no fewer than five music portals in the hope your new streamer will be able to "talk" to at least one of them if you opt for the new RS150 from Korean high-end manufacturer HiFi Rose (part of the Citech Group). Compatibility and the capacity to meet future requirements are just as important as impressive user-friendliness for this device, which has been designed with hi-res playback firmly in mind. Anyone who is *au fait* with using a smartphone won't have any trouble with the RS150, not even for a split second, thanks to its well-thought-out operating structure and high-resolution touch-screen display.

The beating heart of the neatly designed RS150 is the new Verita DAC (model number: AK4499). It can deal with PCM sampling rates of up to 768 kilohertz/32 bits as well as DSD of up to 22.4 megahertz. A signal-to-noise ratio of up to 123 decibels means that the AK4499 currently ranks as one of the very best out there.

The electronic components crucial to sound quality are carefully separated in the RS150 to reliably prevent any reciprocal influence and, as a result, any impairment of the sound quality by stray (high) frequencies.

A large toroidal transformer ensures the RS150 is never "brought to its knees" by any application. After all, the slim streamer not only processes high-resolution audio signals but also video files up to 4K

format. The rear of the RS150 features a many different types of connections. High-end fans will notice a range of balanced connections for analog inputs and for the digital AES/EBU input and output on top of USB and HDMI connectors and a slot for MicroSD cards—maximum freedom from interference followed by a generous selection of connection options are the stand-out features here. The touchscreen display on the front of the RS150 can play videos and show video previews in addition to allowing users to operate the device without having to connect an external screen. The HD streamer can be wirelessly integrated into the user's home network.
The RS150's super-solid aluminum housing sits on multilayered absorber feet. The team in Korea is proud of the pristine stats of this device, which boasts excellent noise performance, linear frequency responses, and precise channel balance. The real icing on the cake though: You can even rip CDs with the RS150 and operate it from your smartphone. The open system architecture means that, where necessary, the RS150's software can be updated to meet the latest requirements imposed by music and video portals. The future of streaming is a blossoming rose. ▪

Based in Seoul and a member of the South Korean high-tech company Citech Co, HiFi Rose is a firm specializing in the production of HD streamers and other digital sources.

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MUTEC REF10 SE120

PERFECT TIMING!

Clock generators are immensely important in digital signal processing as jitter can significantly impair the listener's enjoyment of the music. In 2017, Berlin-based MUTEC unveiled the REF10, a reference clock generator that became hugely popular among music professionals and audiophile home users alike. Suitable for use both in professional studio environments and as part of high-end playback chains, the REF10 reference clock boasts exceptionally low phase noise and significantly improves playback quality.

Holding true to the old adage "there's always room for improvement," the MUTEC developers decided to tinker with their digital clock again and have now launched the "beefed-up" REF10 SE120. From a metrological perspective, the new version actually manages to surpass the REF10. All this was possible thanks to the use of an even more sophisticated and carefully selected oven-controlled crystal oscillator (OCXO) that was chosen after hours and hours of testing employing high-precision metrology. At –120 decibels relative to carrier (offset: 1 hertz from the carrier frequency of 10 megahertz), its phase noise is incredibly low and responsible for a significant increase in the precision, transparency, three-dimensionality, and dynamics of the sound profile. The improvement is audible even with a hi-fi chain comprised of only the very best components. ▪

The MUTEC REF10 SE120's capabilities at a glance:

- A 10-megahertz reference clock generator with extremely low phase noise of –120 decibels relative to carrier at 1 hertz
- Very carefully selected oven-controlled crystal oscillator (OCXO) with incredibly low noise levels as a clock base
- Rectangular output signal with extremely steep slope for incredibly precise synchronization of the receiver
- For maximum compatibility with various manufacturers' audio devices, 50-ohm and 75-ohm outputs that can be used in parallel
- Eight galvanically isolated, individually switchable outputs
- For every part of the circuit, extremely low-noise voltage supply optimized into the subfrequency levels
- Integrated, high-quality linear power supply (for international use)
- Highly efficient power input filtering
- Streamlined, intuitive, and straightforward user interface
- Rack-mountable with optional mounting set for studio use (two rack units)
- MUTEC provides a three-year manufacturer's warranty for the REF10 SE120. The recommended retail price is €5,498. The clock generator is available now.

Founded 30 years ago, MUTEC is well known primarily in the world of professional audio production for its clock generators and digitalaudio devices. MUTEC's audio clocks draw on the proprietary 1G clocking and reclocking technology also used, for example, in radio stations. The Berlin-based company has also been making products targeting home users for several years now.

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Elac Concentro S 509

FROM THE TOP DOWN

Concentro is for ELAC what Lexus is for Toyota and Maybach is for Mercedes. Concentro is the Kiel-based company's top-of-the-line brand. ELAC launched the organically designed original Concentro to commemorate the company's 90th year in business, and it remains a statement piece in many respects. It is, of course, a design piece. But it's also a hive of technology, wonderfully combining all the ELAC attributes such as the patented "JET 5" tweeter–mid-range coaxial chassis and the crystal-shaped bass diaphragms in a housing that weighs over 150 kilograms and boasts stunning craftsmanship. Just under two years ago, ELAC followed it up with an almost identical-looking but slightly more "manageably sized" model, the Concentro M, that still weighed in at a hunky 90 kilograms. It became clear at this point that the Kiel-based company was establishing its own premier league and eventually a whole team of Concentro players would be on the playing field.
Next came the Concentro S 507 that, on account of its shape and design, headed off in a different, yet still distinct direction. Unlike its two larger teammates, the Concentro S dares to have some "edge" and makes a unique visual impact with its slightly backward-tilted and tapered frame. ELAC has now unveiled its new teammate, the S 509. The company's 500 series, which has made a real name for itself and established firm roots, has now become an integral part of the Concentro team. A bottom assembly, which the product designers say creates a "high heel" effect, accentuates the new models' striking look. You'll immediately notice it as soon as you catch a glimpse of a Concentro S from the side. In any case, this provides complete stability and ensures the loudspeaker is efficiently and effectively decoupled from the floor underneath.
The Concentro S 509 does, of course, also feature the sophisticated Step X-JET coaxial driver in the center of which the new JET 5c foil tweeter gets to work. The aluminum mid-range chassis is configured as a ring radiator. Its dispersion characteristics can be modified by means of magnetic aluminum rings (known as "directivity control rings" or "DCRs" for short). This alters the ratio between direct sound and diffuse sound, thus enabling users to make adjustments in line with their own room acoustics and hence find the optimum listening distance.
The "large" Concentro is also not the first model to feature the crystalline-shaped bass–mid-range driver. The compound chassis made from aluminum and cellulose remains very lightweight yet extremely rigid, in the process ensuring impressive dynamics with minimal distortion. To help it reach the very lowest frequency ranges, the Concentro S has four 18-centimeter-diameter woofers in push-push–pull-pull configuration that work with a downfiring bass reflex tube to provide the user with plenty of flexibility in terms of where they can position the loudspeakers in the room.

A modern high-end floor-standing speaker with a timeless design, the Concentro S 509 leaves nothing to be desired in terms of technical features and is every bit as impressive as its larger teammates. At the same time, though, it doesn't come with the same kinds of requirements in terms of room size. This means the wonderful world of Concentro sound quality will now be accessible to a wider audience. ▪

ELAC celebrated 90 years in the business back in 2016. The Kiel-based company is predominantly known these days for its loudspeakers, but it actually initially began with the development of sonar equipment in 1926 before launching its first turntable, the PW1, in 1948. ELAC subsequently made a name for itself on the turntable market, and in the 1960s and 1970s added electronics to its portfolio. This even included designer radio alarm clocks, which continue to exchange hands among their fans even to this day. It wasn't until the start of the 1980s that ELAC began properly developing loudspeakers, and in 1985 it unveiled its legendary 4 Pi chassis, which the company has continuously redeveloped ever since then. In 1993, ELAC launched the first JET tweeter, still the trademark feature of all its top loudspeakers.

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Höffner H10 loudspeaker

EXCEPTIONAL HANDCRAFTED LOUDSPEAKERS FROM AACHEN, GERMANY

With its timeless design, the H10 two-way active loudspeaker can't fail to impress you as soon as you lay your eyes on it. The inside of the main body is, of course, elaborately reinforced and designed to prevent standing waves right from the outset. The stands manufactured with 10-millimeter thick aluminum integrate with the loudspeaker housing made of smoked or natural oak to form a unified look. The stands also allow the user to arrange the loudspeakers to perfectly accomodate the listening position. The customer may specify the color of the loudspeaker housings, stands, and loudspeaker covers.

Although the speaker features a two-way bass reflex design, the H10's baffle boasts three chassis: A 17-centimeter diameter bass-midrange with a powerful and precise long-stroke drive and sandwich diaphragm shares the top part of the housing with a 26-millimeter textile dome boats enormous frequency response linearity and zero resonance. The lower beveled section of the baffle features a 22-centimeter-diameter passive diaphragm. This supports the bass range as well as the perfectly timed playback; and since it's located on the front of the speaker, the H10 can be placed near a wall.
A class-D amplifier unit in each case provides 2 x 250 watts of power per speaker for the H10's dynamic and thrilling musical performance—with enough reserves for huge shifts in dynamics and powerful thrust as well. An active amplitude, phase-optimized DSP crossover distributes the frequencies to the different chassis. This ensures realistic spatial reproduction and provides an authentic-feeling musical experience with impressive attention to detail.

Three presets on the amplifier unit provide the user with acoustic room correction options. For a reasonable surcharge starting at €400, Höffner will send a technician to adjust the H10 to the specific acoustics in your room.

In terms of inputs, the H10 boasts the following: analog unbalanced and balanced inputs as well as AES and S/PDIF coaxial connectors. You can order the "development-stage remote control" if required, allowing you to adjust the volume, select the input, and choose the room correction preset all from the comfort of your sofa instead of having to go over to press the buttons on the loudspeaker.
The development, design, and craftsmanship are all Made in Germany. The price for a pair of these exceptional and technically ingenious loudspeakers, including the loudspeaker stands, is €9,450. ▪

Höffner Audiosysteme was founded in Aachen, Germany, in 2006, however the story behind the company dates back much further than that: Having grown up in a home where music was revered (his father produced professional concert recordings), Markus Höffner developed a love for high-quality music playback at an early age. His own creations using a variety of different loudspeaker concepts were both his passion and hobby. They proved so popular that he began to develop customized loudspeaker systems to meet customers' personal requirements.

These days, the team at Höffner Audiosysteme consists of engineers, constructors, and designers who create loudspeakers for music fans who demand authentic music playback. The current product portfolio comprises two ranges of models: H1 (passive or partially active), H10: (active or passive)

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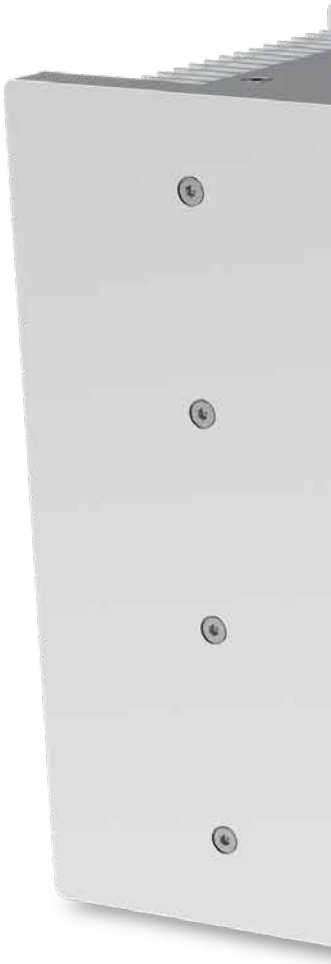
ACCUSTIC ARTS AMP IV and more…

NEW AMPLIFIER HEAVYWEIGHTS UNVEILED

ACCUSTIC ARTS recently announced the launch of two new high-performance amplifiers based on the company's very own "classic," the extremely well-regarded stereo power amplifier the AMP II. The AMP IV is a bridgeable stereo output stage that is systematically configured as a dual mono power amplifier. This means each of the two amplifier stages, from the voltage supply to the amplifier boards, is constructed completely separately. This guarantees optimum channel separation and maximum signal-to-noise ratios. Very short signal paths and a wealth of hand-picked components are par for the course at ACCUSTIC ARTS. The AMP IV also serves as a current-controlled power amplifier, demonstrating a high current delivery capacity in all situations thanks to a whole army of MOSFET transistors. This also makes the AMP IV especially well suited to operating low-impedance or impedance-critical loudspeakers. The sophisticated circuitry of the "current mirror" also means that no servo controllers for the DC offset are required in the new generation of power amplifiers, as DC voltage errors and music signal errors are corrected simultaneously and effectively.

The company specializes in switchable damping factor linearization, a well-known feature of the AMP II. The prevailing opinion says a high damping factor is beneficial for controlling the loudspeaker but at the same time also has a negative effect on its decay behavior. According to ACCUSTIC ARTS, the best solution consists of positioning the damping factor within a defined range that is ideal for the loudspeaker and to ensure it is broadly linear. This enables the best possible relationship between the loudspeaker's control and decay behavior to be achieved in terms of the resulting sound quality.

ACCUSTIC ARTS Managing Director Joachim Voss says the new stereo and mono power amplifiers feature, "completely redeveloped electronics including new transformers," adding: „This means the output stages are even more powerful and even more musical than their predecessors and can control loudspeakers with two ohms or less without any problems."▪



Made up of an amalgamation of the words Accurate Acoustic Arts, the company name ACCUSTIC ARTS is fabricated. Among the employees of this high-end, small-scale manufacturing company located in the southwest German town of Lauffen, accuracy and precision hold a sacred status. This not only relates the craftsmanship carried out exclusively in Germany, but also manifests in the choice of exceptionally high-quality technical components and the meticulous product testing of each ACCUSTIC ARTS device prior to delivery. The tests can take as long as two weeks to complete, but this ensures customers are guaranteed nothing but the very best. The company's goal is "Absolute Sound Fidelity Through Reproduction," an aim reflected in the natural and highly detailed emotional sound profile its equipment achieves. "Warmth in the sound profile is desirable," says Voss, but is "not tolerated in the form of artificial gimmickry." This is a challenging balancing act that ACCUSTIC ARTS products always master convincingly.

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