



Music is
for living

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The History

OePhi was born from a lifelong passion for high-fidelity audio.

Whilst officially launched in 2021 when we received our first international review, the OePhi journey actually began much earlier when a 15 year old Joakim Juhl - founder of OePhi - built his first pair of loudspeakers. This interest naturally evolved and, driven by a desire to create audio products that deliver pure, honest sound, deeper research into the fundamentals - cable and electronics design - began.

Influenced by UK audio traditions of pace, rhythm and timing along with a deep appreciation for the emotional connection that truly great sound can create, what started as experimental speaker design for the joy of creation has transformed into a mission to challenge industry norms.



The Mission

OePhi exists to fill a critical gap in the high-end audio market. While many manufacturers have shifted from engineering excellence to luxury marketing, we remain committed to creating products that are both technically superior and accessible.

We serve real-world audiophiles who:

- Seek pure, honest sound reproduction
- Live with ordinary budgetary constraints
- Don't want their living spaces dominated by their equipment
- Value performance over prestige

Our mission is to disrupt the market by providing superior products at competitive prices, challenging the notion that exceptional audio must come with an exceptional price tag.

The OePhi Philosophy

The art and science of not making a sound

At OePhi we believe that real music replay equipment should neither edit nor modify the signal, but simply pass through the music as faithfully and honestly as possible. While this is a claim many Hi-Fi manufacturers ascribe to, we find that we represent a more fundamental approach that we feel is necessary to ensure true long-term musical enjoyment.

This document describes OePhi's design philosophy, focusing on how we view the art of enhancing musical enjoyment through the science of understanding sound, and finding solutions to minimise any negative impacts on music replay. By detailing our approach, we wish to offer a pedagogical guide for understanding where we are coming from, what we try to achieve and ultimately for you to better assess whether our way of doing so could be the right one for you.

As a first step, we need to make clear some fundamental principles for audio replay that condition our approach to audio design.



Principle 1: Nothing can improve the signal.

Conversely, any entity that interacts with the signal will (unavoidably) degrade it. This follows that it is our conviction that the truest obligation of audio designers should be to seek the least audible impact of any and all stages of the replay chain.

Principle 2: Lost information can never be restored.

It is not possible to bring back lost information. This means that signal integrity has to be preserved as much as possible throughout the playback chain. The earlier the better, since signal modifications early in the chain will multiply at later stages which will not only affect the signal, but also its added distortion artefacts, which will then multiply through each successive stage in the chain.

Principle 3: Design comes before materials.

A good design will make the most of the materials being used. But better materials cannot solve inherent design constraints. For instance, a well-designed loudspeaker crossover can be improved with better crossover components, but better crossover components can never make up for limitations in the crossover design. Similarly, audio cables' fundamental electrical properties are given by their geometrical design. Better insulation and conducting materials may affect these properties, but they will never be able to move beyond the basic limitations given by the electrical parameters i.e. the cable's filter properties.

Principle 4: No sound is non-essentialist.

Bear with the philosophical underpinnings of this one – its consequences are indeed very practical. It says that well-designed audio products will entail less audibility. Their audible effect on a system is instead a consequence of the increased audibility of the other components in the replay chain. Because the ability to produce 'no sound' is fundamentally non-essential – meaning that it is not an attribute that relies on its own independent reality – its manifestations are relational, i.e., detectable only through the complex interactions of a replay system, not as an isolated, discrete entity measured in a laboratory test.

In practice, this means that we cannot insert or change one component in a replay chain and make conclusions about the sound of that component based on that change alone. Rather, we have to make multiple changes and carefully monitor which audible changes (effects) follow which components (variables). This demonstrates which variables (components) have more pronounced audible effects (inherent sound) and which components are truly transparent and simply increase the audibility of other components.



Principle 5: Sound is cumulative and subtractive.

As different stages of the signal chain add, subtract or modify the signal in different ways, the resulting sound is not only a sum of all the parts but also an accumulation of all the combined limitations as they successively add to one another. What has been lost at one stage cannot be regained at another, but only sought compensated by sacrificing something else in the signal with a worsening of the overall signal integrity as a result. The practical implication is that 'voicing' or 'balancing' of the sound should be avoided as much as possible due to its further

degradation of the signal. It is always better to start by identifying the root cause(s) of the sound and its limitations and target the solutions on how to mitigate these. Should you want to change the sound, then do it as early in the chain as possible, because this will have the most fundamental impact from a single isolated change. By limiting the change to only one variable, it will be easier to assess the result and to potentially change it later if you should change your position. In other words, find the source(s) you like the best (variable), and keep the rest of the chain as transparent as possible (non-variable).



Principle 6: Physics care not for money.

While money may allow more freedom in design and material choices, it changes neither how physical systems behave nor how we should design solutions. From a designer's perspective, this means that we should strive for developing the most optimal solutions, which again is conditioned by how we understand the

problem to be solved. As a result, if we just understand the problems better, we can design much better performing products without increasing manufacturing costs. From a customer's perspective, this means that spending more is no guarantee for better performance. Products should be evaluated purely on the basis of their performance, not on the basis of their price tag.



Methodology & Design Approach

We don't follow conventional wisdom,
we prefer to challenge it.

Our methodology combines rigorous scientific understanding with meticulous engineering to create audio equipment that solves fundamental problems rather than merely addressing symptoms.

We believe that the architecture of a system matters more than its individual parts. Cable geometry and crossover design take precedence over materials or components. While we spend extensive time on component selection, we never use them to offset deficiencies—a common practice in “voicing” audio products. Instead, we select components that add or subtract the least from the signal, regardless of brand prestige or cost.

Time-domain mastery

Our deep understanding of time domain performance is what sets us apart. We deploy this know-how through meticulous testing to ensure that each technology, each refinement and each resulting product demonstrate clear performance advantages in our test lab before we release it. This approach enables us to achieve perfect timing and coherence in our cables and speakers, creating what effectively behaves like a single unified point source without the phase-distortion associated with multiple separated current paths and multiple sources.

Empirical testing guides design

Every design choice is guided by empirical testing that expands our theoretical knowledge. We never rely on assumptions or industry conventions, we verify through measurement and listening. This balance of objective data and subjective experience is a guiding principle of our approach.

Value driven innovation

We only introduce products that solve problems nothing else does. When additional cost is possible, we seek the most effective performance enhancements. When affordability is the goal, we identify the least compromising solutions. In the most crude terms, we aim to offer the best bang-for-buck.

Our “Work Small” philosophy

We deliberately operate with smaller batch sizes and local suppliers rather than chasing margins through mass production overseas. From the cabinets down to the spacers on our reference cables, everything is made by our skilled carpenter in Copenhagen from Danish oak. Our speaker terminals are pure copper, hard-wired by hand despite the difficulty of working with such materials. This approach gives us complete control over quality and allows us to optimize each component individually.



The Result

Audio equipment that reveals music's true nature - uncompressed, uncoloured, and emotionally engaging. Not designed to flatter poor recordings, but to faithfully reproduce what was captured. The perfect balance between studio monitor precision and hi-fi musicality, delivering both technical excellence and emotional connection.





OePhi cabinets under construction in Copenhagen.

Product Architecture

OePhi is a fundamental 'system' approach. We care for maintaining the highest possible signal integrity all the way from the source and throughout the system, including how it is handled inside the loudspeakers: From the high-quality terminals through the point-to-point hand-soldered crossovers that omit PCB-losses and are made of the highest quality components, we even include our proprietary cable technology for internal wiring.

Unlike most 'high-end' products, OePhi is not about adding a 'flavour' or effect to the sound. OePhi is about caring for the original signal, seeking to extract as much of the original information as possible while keeping its timing intact. In order to fully appreciate the qualities of our speakers, we offer corresponding ranges of cables. After all, speakers can only reproduce what they receive in the first place! By ensuring the integrity of the signal, OePhi cables serve as critical system components for releasing our speakers' full potential.

Who is OePhi for?

We've created speakers and cables for those with a genuine passion for music. Our products are designed to fit into the homes of real listeners, while delivering the kind of audiophile-level performance usually reserved for components many times the price (and often size). OePhi offers high-end for the music lover who doesn't need the superficialities of typical high-end offerings.

Performance levels and speaker sizes

We offer five distinct performance levels, covering both speakers and cables. Each builds on the strengths and virtues of the preceding level but adds additional technological advancements and refinements, higher-grade components and materials. For the speakers; **Lounge**; **Ascendence**; **Transcendence**; and **Immanence** all share the same two compact cabinet formats; 2-way compact stand mount for smaller to mid-sized rooms and 2.5-way compact floor stander for mid-sized to larger rooms. The **Reference** speakers use their own unique, time-domain optimised cabinet for the ultimate acoustic performance in mid-sized to larger rooms.

Understanding cable pairings

The five performance levels include both speakers and a corresponding cable loom. The corresponding cable loom offers the most cost-effective route to extract performance from the speaker. We recommend using our speakers with their corresponding cable range or higher, since all our speakers are highly responsive to the improved signal integrity.

The five performance levels

Lounge - Our entry-level range offers true, high-end performance for a modest spend. The Lounge range carries our DNA in its most distilled form, setting the absolute performance bar at their price points, while also being easy to integrate into a wide range of systems.

Ascendence - Our 'wolf in sheep's clothing' Introduces advanced features and technologies conventionally only found in absolute top-tier speakers Ascendence range speakers mark our dedication to pure, raw signal preservation and represents the ultimate high-end value for money.

Transcendence -Introducing customised Purifi mid-woofers (widely regarded as the best mid-woofers on the market), the Transcendence range reaches performance levels that rival the very best at any price level. Transcendence represents OePhi's 'performance range' offering the ultimate sound while maintaining an extremely

competitive price point.

Immanence - Representing OePhi's dedication to go way 'all the way;' and do the unthinkable! The Immanence range is about over-specifying and completely obliterating the conventional constraints of compact loudspeakers designs. Their delivery combines precision with extreme speed and almost unconstrained dynamic contrast for a truly musically transparent performance. Ideally Immanence should be paired with the best electronics on market.

Reference - The vision and dedication to push the threshold of speaker performance and make it available for use in ordinary rooms and at a realistic price point. The Reference 3.5 achieves a level of sound reproduction beyond words and compares favourably with any loudspeaker system Reference 3.5 is the Reference against which all else is measured.



Lounge

Lounge 2 - Oak



Handmade from the ground up in Copenhagen, the Lounge range offers incredible value and performance more akin to competitors' top of the line offerings. With the Lounge range, we wanted to introduce serious build and performance at the most approachable price point.

The Lounge 2 stand mount speaker introduces core OePhi

technologies including the same no-compromise low energy storage dome tweeter as the multiple award-winning Transcendence range.

Lounge speakers excel with a natural, honest and engaging approach to open up both the technical and emotional dimensions of recordings and artists' performances:

- Low energy storage dome tweeter
- Point-to-point soldered crossover
- Time compensated XO tech
- Transient Integrity tech
- Low Energy storage XO
- Air Core Inductors
- Low Energy storage cabinet
- Solid core internal cabling

By means of an extra woofer in a larger cabinet with finely tuned separate volumes, reflex-tunings, OePhi's bespoke 'hard-decoupling' grounding system for low energy storage and fast transmission of vibrational energy, the Lounge 2.5 model builds on the virtues and strengths of its stand mount sibling.

Due to its larger size, it offers a true full range and scale performance that can satisfy even larger rooms. The Lounge 2.5 can blend seamlessly and beautifully into any home. It has an unmistakably honest and transparent character while having a real, large speaker sound.



Lounge 2.5 - Oak

Ascendance

Ascendance 2 - Ash



The Ascendance range is a pure incarnation of the 'source first' principle following the logic that once the signal has been disturbed, nothing can restore it. Following the signal path with utmost care, we introduce bespoke silver plated OePhi terminals of pure copper, point-to-point hard-wired crossovers with copper foil inductors, OePhi's bespoke DC-biased capacitor technology and bespoke internal OePhi wiring. By eliminating all potential bottlenecks, we ensure that the bespoke ultra-fast low loss doped-

paper cone mid-woofer and our multiple award-winning low compression and low energy storage dome tweeter are driven with the cleanest most undisturbed and unhindered signal. The result is a wide-open, unfettered delivery of even the most intimate details, emotional expressions and timing cues within a dynamic envelope and scale that defies expectations considering their size and cost constraints. Moving from Lounge to Ascendance adds speed, timing and expression. And thanks to the classical doped-paper cone, a natural, timbrally

dense and almost human character is maintained.

Ascendance 2 is the perfect choice for smaller to medium sized rooms where, despite its discrete size and affordability, it offers breathtaking performance reminiscent of the very best in the industry and worthy of the best electronics you can afford. That said it's ease of drive-ability and honest, uncompromised reproduction will extract the best from any equipment. A true music-first loudspeaker that is equally



Ascendance 2.5 - Oak

With its extra woofer and larger cabinet, the Ascendance 2.5 marries the 'music first' approach of its stand mount sibling with larger scale and better extension bringing more physicality and heft to the pure articulate and honest presentation. Due to the Ascendance woofers' low mass cones, the incredibly fast and unrestricted motor systems and its low-loss toroidal woofer inductor, Ascendance 2.5 brings a sense of timing and scale to the presentation that makes the music come alive in a way that has largely been neglected amongst modern loudspeaker designs.

Technological and feature highlights introduced at the Ascendance level;

- OePhi Tech internal cabling
- Anti Phase Lag Circuitry
- Low Loss doped paper cone woofer

Transcendence



Transcendence 2 - Oak



The Transcendence range represents OePhi's performance range where every choice has been dialled in to offer the most uncompromised sound while maintaining a price point and an ease of use that makes it the optimal choice audiophiles who seek the best performance but live under space and budget constraints that otherwise prevent them from making their dreams come true.

We consider Transcendence to be the dream speakers you can actually

afford! Picking up on all the lessons learned from optimizing the hell out of the Ascendance range, Transcendence introduces our customized Purifi mid-woofer - widely regarded as the most sophisticated and best performing driver on the market. The purest signal meets the purest of performance within which only very few speakers reside. Don't be fooled by the simple and discrete appearance of the Transcendence range; they are true technological and musical marvels

as has been attested by their multiple award-winning entry to the speaker market.

Transcendence 2 is a revelation of a compact stand mount monitor, offering exceptional insights and room-filling dynamics capable of opening up the most complex music while maintaining the coherence and integrity required for keeping the simplest and most delicate nuances intact and meaningful. Despite its reasonable cost, Transcendence 2 are likely to be the least bottleneck in



Transcendence 2.5 - Walnut

With its floor stander cabinet and extra Purifi woofer, the Transcendence 2.5 increases the low frequency extension and articulation of its smaller sibling, increasing the sense of realism by adding physicality and scale. With its clever implementation of two Purifi woofers, each in their own air volume and with sophisticated and finely tuned pressure control and box tuning, the Transcendence 2.5 renders low frequency information below 30Hz with ease, timing and authority - as if it was a much larger and more expensive speaker system. The dynamic head room and finesse of the

Immanence



Immanence 2 - Satin white



Where no one has dared to go is where the Immanence range resides. Taking off with state-of-the-art Purifi woofers, the Immanence range has been created to offer the most extreme, honest, direct and faithful rendition of the music signal. With monster-sized copper foil inductors everywhere in their packed point-to-point hard-wired crossovers and the introduction of a massive wide foil true ribbon tweeter, Immanence speakers offer micro-detail retrieval, timbral accuracy and transparency surpassing even the most sophisticated electrostatic and planar speakers, while at the same time presenting dynamic scale and contrast most reminiscent of large horn systems. The result is a truly uncompromised speaker system that makes them the ultimate speaker

choice for real living environments where their simple yet sophisticated aesthetics make them blend into any home. Where the Transcendence range represents the domesticated vision of the ultimate speakers, the Immanence range are the wild and untamed - pure access to the nerve of the music! Listen if you dare...

All you have to do is to lift and feel the sheer weight of the Immanence 2 to appreciate just how much extreme audio technology and love they hide inside their compact and elegant low mass enclosures. In the purest spirit of the source first ideology, the proper way to unlock the true potential of OePhi's loudspeaker engineering is to create an unhindered signal path,

which, in the case of Immanence 2, entails a massive copper foil inductor that reduces losses and improves the acceleration and control of the electrodynamic element. Combined with the increased voltage headroom of the anti phase-lag circuitry, the signal feeding the drivers is virtually like driving them active straight off the amplifier's output stage! Except that the unique OePhi technologies ensure significantly higher signal integrity and time-domain performance than any active speaker available. If you are looking for the ultimate small speaker for small to medium sized rooms that will tell you absolutely everything that is going on in the system, the recordings, and ultimately with the artist, Immanence 2 is your only



Immanence 2.5 - Oak



Like its smaller sibling, Immanence 2.5 is a pure example of proper, extreme audio engineering accepting no constraints other than their compact size and ability to fit in real-world listening rooms. The larger cabinet and the additional Purifi woofer add extension and physicality to the proceedings while showing none of the drawbacks usually experienced among competitors' solutions. Immanence 2.5 offers incredible in-room linearity and phenomenal transparency and timing making it the ultimate compact floor stander for mid-sized rooms. While deserving absolute top-level electronics, Immanence 2.5 is easy to drive and can be used with a wide range of amplifiers - simply pick the

Reference

Improving upon the Immanence speakers is no easy task as anyone who has spent time with them can attest. Doing everything so perfectly in a compact and room friendly shape, meant that a larger model simply offering more of the same wouldn't suffice. It had to push even further and go where even the Immanence range can't go. While some of the technologies were already in place, we had to do the unthinkable and completely rethink and re-engineer from the outset. We implemented these so that we could extract performance that until now has not yet been achieved by anyone in the business.

Enter the Reference 3.5 - The vision, the mission, the ultimate incarnation of over 25 years of rigorous testing, exploration, creative thinking and critical listening. The Reference 3.5 is a one of its kind statement product that brings the very best in speaker technology and innovation together in a relatively compact and discrete form that suits most real listening spaces. While most ultra high-end speakers tend to draw aesthetics and physical in-room presence from sci-fi spaceships, our mission was to keep the



Reference 3.5 - Oak

visual pyrotechnics to a minimum, while devoting our attention to the details that really matter for recreating musical events realistically.

Solving problems at their root cause.

The tweeter enclosure is one such striking detail. While absolute perfection in phase-tracking is a hall-mark feature of all OePhi loudspeakers, there's multiple ways to achieve this. Where most approaches entail designing the crossover to compensate for the acoustics, the Reference 3.5's unique form utilizes the acoustic properties of the cabinet design to compensate for the electrical side - the drivers and the crossover. We thereby solve the acoustic phase-problem within the realm of acoustics while leaving the crossover to solve a much simpler task of balancing the electrical work load between the drivers. In effect, the Reference 3.5 presents the same holographic realism that OePhi speakers have become renowned for but do so with even greater believability, with even more scale and in a way that has an even more organic and life-like character. Reference 3.5 simply processes and delivers information with even greater signal integrity and with further refinement of the time-domain performance. In effect, the brain has to do less work to understand the musical message. It is due to the virtues of this unique approach that we are able to further control

the more subtle parasitics of the crossover's impact on the signal integrity, including avoiding having any articulation points in the entire bandwidth of the speaker!

Acoustics

In addition, the unique placement of the tweeter in front of the woofers, further solves some of the acoustic limitations of large speaker designs where the front baffle causes diffraction effects when the sound wave travels across and bounces off the surface area contributing to the sound reaching the listener - but with a phase delay that adds to signal smearing and time domain distortion. By deploying the smallest possible front-baffle area, the tweeter box eliminates this degrading effect while vastly improving the speakers' dispersion angle, making the power response even wider, more homogeneous and true to that of real instruments.

Mechanics

Other details include the multiple mechanical de-coupling approaches where the tweeter box is decoupled from the main cabinet ensuring that the tweeters only interact with the small low-mass enclosure of solid hardwood. This, in return, presents the tweeter with a velocity of sound close to that of steel, providing the ultimate transmission of vibrational energy away from the moving diaphragm for lower mechanical distortion. The main cabinet

is also decoupled through a three-piece plinth-system ensuring double isolation for the woofers and the midrange, while the tweeter benefits from triple mechanical decoupling! The whole mechanical engineering exercise boils down to making a relatively large speaker behave as if it was tiny - both acoustically and mechanically - while reaping the benefits of larger speakers' ability to more freely move air and present unrestricted sound pressure.

Sensitivity

Amongst these benefits is the larger bass enclosure's lower box pressures working against the motion of the drivers. Featuring two Purifi woofers, Reference 3.5 also doubles the ability to move air for true-to-life low frequency articulation and impact. The double woofer arrangement also enables the Reference 3.5 speaker system to almost double its sensitivity, effectively cutting its current-distortion in half, causing a significantly lower noise floor from which to present the signal in even sharper contrast with increased resolution of fine tonal and dynamical nuances as a consequence.

A true testament to OePhi's Art and Science of reproducing Music - not just making Sound!





OePhi Speaker Matrix

	Lounge 2	Lounge 2.5	Ascendance 2	Ascendance 2.5
Bandwidth	45-27kHz	35-27kHz	45-27kHz	35-27kHz
Sensitivity 2.83V	87dB	89.5 dB	88.5 dB	91dB
Nominal Impedance	8Ω	6Ω	8Ω	6Ω
Power handling (program material)	75W	150W	120W	200W
Size in cm (H:W:D)	35:18.5:30	100:18.5:30	35:18.5:30	100:18.5:30
Weight	6.5kg	15kg	7.5kg	18kg
Standard Finishes (Custom finishes available on request)	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white
Recommended cable level(s)	Lounge, Ascendance, Transcendence	Lounge, Ascendance, Transcendence	Ascendance, Transcendence, Immanence, Reference	Ascendance, Transcendence, Immanence, Reference
Time compensated XO tech	+	+	+	+
Transient Integrity tech	+	+	+	+
Low Energy storage XO	+	+	+	+
Anti Phase Lag Circuit			+9 VDC	+9 VDC
Air Core Inductors	+	+	+	+
Copper Foil Inductors			+	+
Low DCR XO tech	0.4Ω	0.4Ω	0.35Ω	0.19Ω
Internal cabling	Solid Core	Solid Core	OePhi tech	OePhi tech
Symmetrical Load XO tech				
Low Energy storage cabinet	+	+	+	+
Vibration Grounding System		+		+
Decoupled High Frequency unit				
Terminals	Brass	Brass	Cu	Cu
Low compression TI vc former dome tweeter	+	+	+	+
True Ribbon				
Extra Large True Ribbon				
25mm VC paper cone woofer	+	+		
Low Loss doped paper cone woofer			+	+
Un coated Purifi Woofer				
Un coated Purifi midrange				

Transcendence 2	Transcendence 2.5	Immanence 2	Immanence 2.5	Reference 3.5
40-27kHz	30-27kHz	40-40kHz	30-40kHz	25-40kHz
87dB	89dB	88dB	90dB	94dB
8Ω	6Ω	8Ω	6Ω	4Ω
250W	500W	250W	500W	500W
35:18.5:30	100:18.5:30	35:18.5:30	100:18.5:30	112:18.5:55
8kg	20kg	10.5kg	22kg	35kg
Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white	Oak, walnut, black ash, satin white
Transcendence, Immanence, Reference	Transcendence, Immanence, Reference	Immanence, Reference	Immanence, Reference	Reference
+	+	+	+	+
+	+	+	+	+
+	+	+	+	+ Further Advanced
+9 VDC	+9 VDC	+18 VDC	18 VDC	+36 VDC
+	+	+	+	
+	+	+	+	
0.35Ω	0.15Ω	0.27Ω	0.15Ω	0.05Ω
OePhi tech	OePhi tech	OePhi tech	OePhi tech	OePhi tech
				+
+	+	+	+	+
	+		+	+ double grounding system
				+
Cu	Cu	Cu	Cu	Ag
+	+			
		+	+	
				+
+	+	+	+	+
				+



Find out more about our **Time compensated XO technology, Low Energy storage XO, Anti Phase Lag Circuitry, Symmetrical Load XO tech** and our **Low Energy storage cabinet design** in the Appendix on the back page.

Appendix

Time compensated XO technology

Drivers and crossover slopes generate phase deviations. At OePhi we have found these timing inconsistencies to cause irreversible loss of signal integrity, smearing imaging, micro-dynamic texture and rhythmic agility. Unlike our competitors, we find this unacceptable and have developed a unique approach, where we, at the initial stages, alleviate time distortion and phase inconsistencies in the crossover design. This results in perfect driver integration and OePhi's hallmark unmatched realism.

Transient Integrity technology

During our early R&D, we found that one of the key problems in music reproduction was smearing of transients. Once current paths are restricted, separated or variable - whether in audio cables or in a loudspeaker's crossover - each current path will generate their own discrete LCR-resonance. Once summarized, the signal will be modulated by these resonances, or articulation points, causing smearing that curtails transient peaks while also polluting the inter-transient pauses with phase noise. This results in a higher noise floor and reduced dynamic contrast. By ensuring perfect uniformity and coordination of the time constants, OePhi speakers have become renowned for industry leading dynamic contrast and a low noise floor. As a result, OePhi speakers handle signal transients cleanly, without compression.

OePhi speakers thereby generate sound pressure with subjectively less 'loudness' compared to other speakers. This is the result of the lower noise floor and cleaner transient handling, making OePhi speakers sound more like real music and less like 'Hi-Fi'.

Low Energy storage XO

Crossovers are required to cultivate and shape the loudspeakers' output. To do this, crossovers store, release and convert the energy of the signal into heat, which evidently smears the signal, killing the 'live' feeling that captivates listeners. At OePhi we optimize our crossovers not only for linear acoustic output, but equally for minimizing energy storage and its negative effects on speakers' transient handling and time domain performance.

Anti-Phase Lag Circuit

No crossover components are ideal. At OePhi we undertook lengthy research to control crossover components' non-ideal behaviours. Instead of using conventional capacitors that cannot handle rapid changes in the signal without significant losses, OePhi developed a proprietary capacitor technology where multiple discrete components form a DC-biased circuitry that emulates a single passive component without typical constraints in terms of power compression, transient smearing, self-inductive losses and crossover distortion. The result is a the clearer, cleaner, more extended and industry

leading dynamic articulation of the high frequency reproduction.

Symmetrical Load XO tech

Bespoke to the Reference series speakers, OePhi developed a proprietary crossover technology that not only balances out the damping properties of the crossover to affect the drive units' performance symmetrically - and thus the least - but we also achieved integration of the Anti Phase Lag technology in a never-before-seen topology, resulting in an even more naturally distinct and holistic reproduction that places our Reference speakers above the competition, no matter their price point. Physics cares not for money!

Low Energy storage cabinet

Loudspeakers' cabinets are central to their performance. While there are many competing ideas of how the ideal cabinet should be made, we chose to develop our cabinets based on low energy storage principles, where we balance out the cabinet's contribution with the electrical and the acoustic domain. Rather than attempting to suppress vibrations with brute force, we channel the vibrational energy fast and efficiently away from the drivers. The result is cleaner and more vibrant sound without the timing deficiencies typical to over-engineered heavy and bulky cabinet designs that have become typical to 'high-end' audio.

