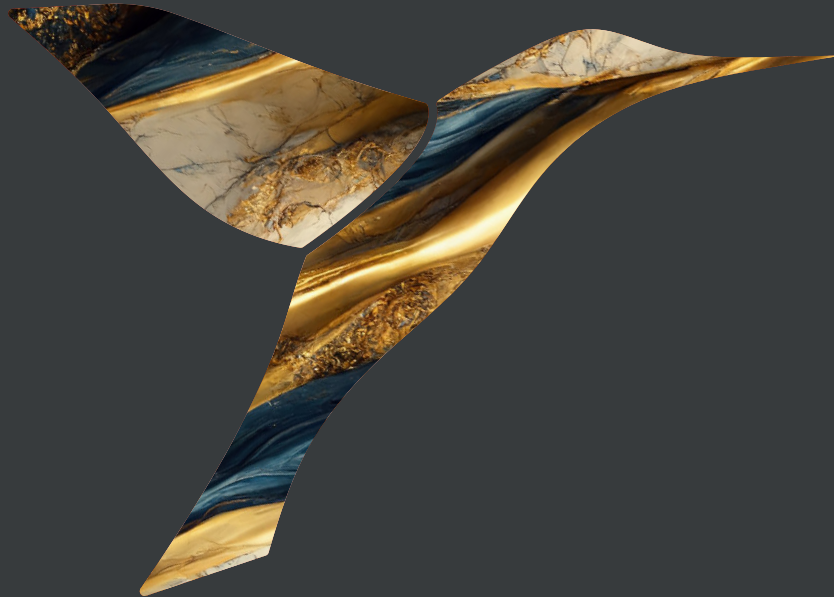




avantgarde
ACOUSTIC



CONCEPT STUDY 2023



COLIBRI

THE REMARKABLE MID-AIR MARVEL.

Although it weighs only two grams, its flight performance is absolutely breathtaking. With up to 80 wing beats per second and a heartbeat of 400-500 beats per minute, it leads its life in permanent turbo mode.

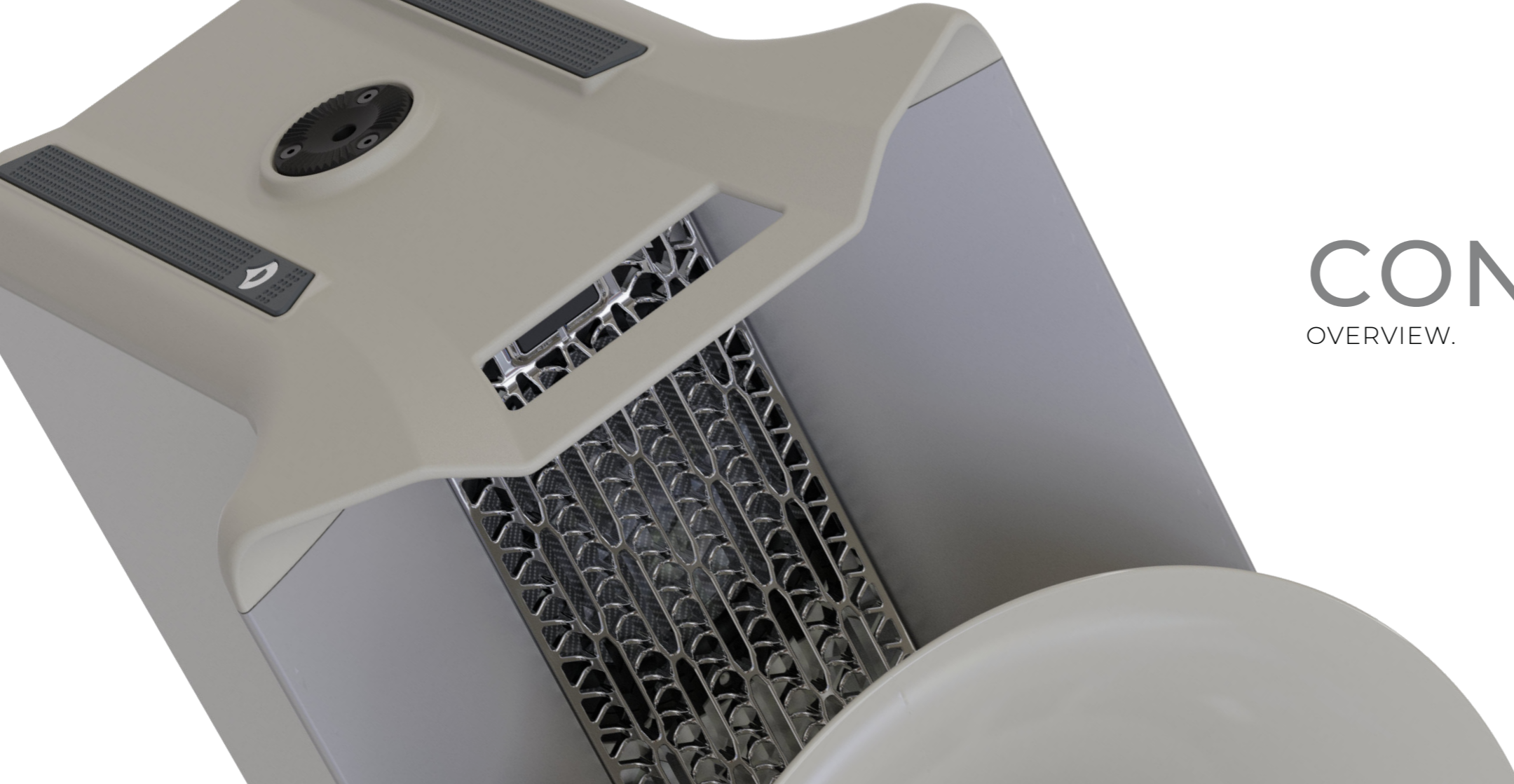
In terms of body size, the Hummingbird is the fastest animal in the world, reaching speeds of up to 400 body lengths per second during courtship flights – in compa-

risson, the fastest jet fighters can only manage 150 – creating G-forces that would render the best pilots unconscious. Even its song is exceptional, with no other bird able to chirp as high.

In many cultures, this astonishing performer is considered an ambassador of light, hope and love, earning it the nickname "Angel of the Sun." In Brazil, the hummingbird is

known as "the bird that kisses the flowers" - a beautiful metaphor.

Inspired by the delicacy, power and speed of this friendly creature we named our new product family Colibri.

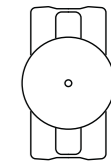
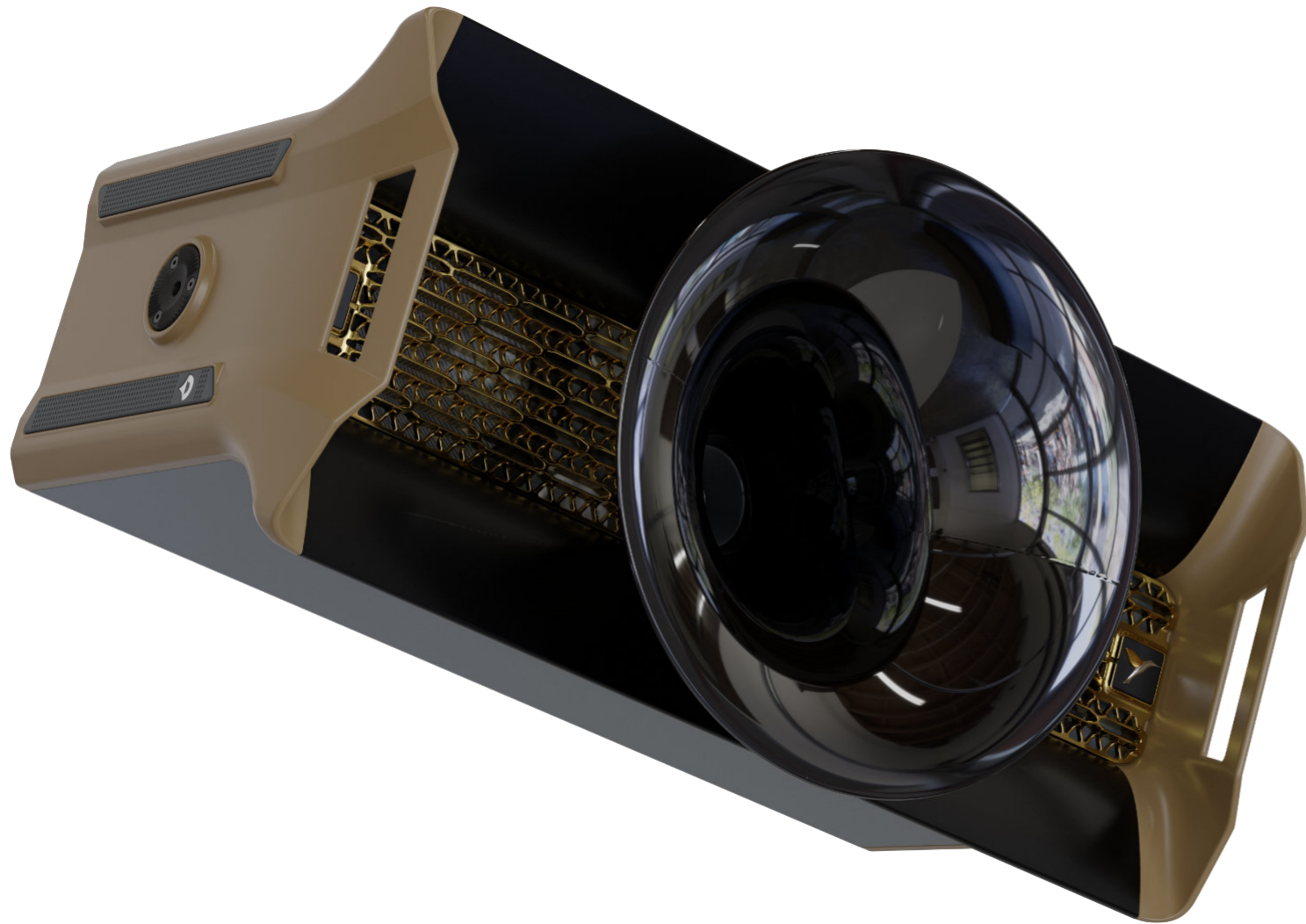


CONTENT.

OVERVIEW.

COLIBRI C2	Concept	7 - 8
	Intro	9 - 10
	Performance	11 - 12
	Specifications	13 - 14
DRIVERS	Bass range	15 - 16
	Mid/High range	17 - 18
COLIBRI SUB	C18 Subsonic bass modul	19 - 20
SOUND	Numbers, data, facts	21 - 22
DESIGN	Design principles	23 - 24
NEST	Installation options	25 - 32





CONCEPT.

THE POWER TO MOVE.

The hummingbird is capable of truly remarkable performance – but it's not power that makes that performance possible. What makes it possible is its lightweight. In nature – as in engineering – it is the power to weight ratio that defines performance.

It defines how quickly a hummingbird can flit from one bloom to another – and how long it can hover in space. It defines how quickly a cyclist can climb a mountain, a sports car can reach 100kph or whether a rocket can achieve orbit. It governs every aspect of our lives – and that includes making and reproducing music.

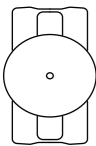
At Avantgarde we are reminded of this reality daily. We have been building and

refining high-performance horn speakers for 30-years. We have been working with high sensitivity, low-mass systems to come ever closer to the emotional and physical impact and excitement of live music. Our high-end, high-performance speakers are widely recognised as amongst the very best that exist. But we also understand that these large and ambitious systems are the exclusive preserve of the fortunate few.

But who doesn't want high quality sound in their own home? We knew that our existing products could not be scaled down to meet that goal. So we set out to apply our existing, highly developed technologies in a new and innovative way, to produce a different kind of system for a different kind of listener. We

wanted to create speakers capable of bringing the sense and sensation of live music to the widest audience, that could deliver not just high-performance but THE performance.

In engineering terms it's a challenge as extreme as the natural challenge faced by the hummingbird. That natural marvel started out as an inspiration, but the product we finally developed is, in many ways just as remarkable. That's why we named it the Colibri.



INTRO.

KEY FEATURES AT A GLANCE.

The Colibri C2 is a compact, two-way, ultra high performance loudspeaker system. It combines Avantgarde's proven sound quality with extreme efficiency and an incredible maximum level (117 dB).

The Colibri C2 is built to last: Timeless design, the finest materials, and a focus on superior, stable, precision analog technology that eschews short-lived digital components

make the Colibri C2 a product that will perform for years. The Colibri C2's advanced analog transducer technology already exceeds the demands of future digital development.

Its compact dimensions and multiple installation options make it easy to integrate even in the smallest rooms. It can be placed directly on the integrated rubber pads or

installed using the clever stands and wall mounts. It can be aligned horizontally or vertically, while the integrated, toothed mounting rings allow precise tilt and height adjustments.

Suitable for different living environments, the speaker is available in three contrasting color combinations. The system can be further customized via optional finishes for

the horn trumpets and speaker grill.

The Colibri C2 can be upgraded with one or more C18 low bass modules. The C18 can be placed separately or integrated with the Colibri C2 using the optional stand and bracket. The low 65 Hz cut-off frequency also makes the Colibri C2 compatible with virtually all commercially available external subwoofers.

With its compact dimensions and very high maximum sound levels, the Colibri can be used in a variety of ways: As a genuine high-end loudspeaker with outstanding resolution and dynamics for the demanding audiophile enthusiast; As a sonically superior super alternative to chic design speakers; As a party speaker indoors and outdoors, with which you can really let rip; As the ultimate sound system for the best

home theater systems in the world. Or as the best sounding and most elegant ever alternative to professional PA sound reinforcement speakers, for bars, restaurants, clubs or discos.



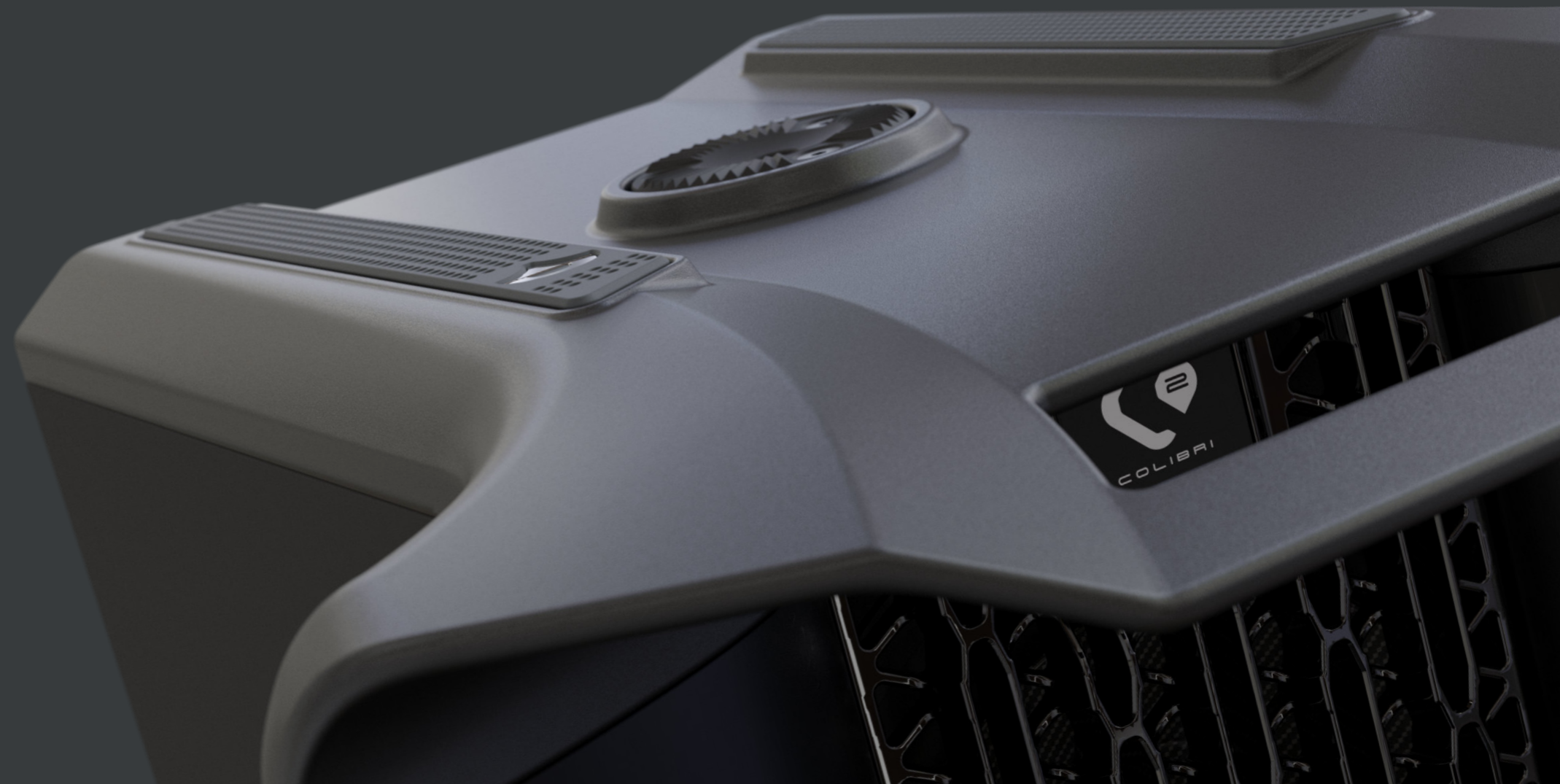
C2.

ULTRA HIGH PERFORMANCE.

The Colibri's ultra high-performance capability is based on the extremely low weight of its moving masses (voice coils and cones), the very strong drive of the 23,500 gauss neodymium magnets, optimized power transmission due to the extremely small 0.95 mm air gaps in the motors and the full range horn concept with the 1,800 cm² bass blades

and the large 350 mm spherical wave horn. It delivers performance that conventional systems can't even dream of, yet this is no fantasy.

The specifications on the following page tell their own story and the numbers don't lie.



BASS.

THE FASTEST IN ITS CLASS.

Typically, 3-way high-end speakers have a large bass driver that transmits frequencies up to about 300 Hz, a midrange driver that covers the frequency range from 300 Hz to 5,000 Hz and a tweeter from 5,000 Hz. Avantgarde has taken a completely new approach with the Colibri, one that significantly exceeds the performance of conventional loudspeakers in terms of sound.

Conventional speakers use a large heavy and thus sluggish driver to reproduce the lower frequencies. This is in our opinion, a fundamental flaw. The lowest bass and the musically critical mid-bass (which dictates pace, rhythm and musical impact) must be considered separately. The lowest frequencies require a large diaphragm with a long stroke in order to move enough air to deliver convincing weight. Dynamic mid-bass pulses, however, necessitate a smaller, lighter, and thus much faster driver.

Therefore, to achieve the most dynamic and communicative bass performance, we deliberately avoid the lowest frequencies below 60 Hertz.

In the Colibri C2, we use the small UL6.5" bass driver in a dual configuration, which, with an extremely small moving mass of only 12.5 grams, is about 6 times lighter than conventional systems with a 10" or 12" driver (approx. 40 - 80 g).

With this combination of low mass, powerful motors and the horn loading of the bass blades, the Colibri C2 achieves outstanding dynamics and speed, vastly superior to any conventional high-end speaker.





HORN.

2.2 GRAM DRIVER.
LIGHT ENOUGH TO REALLY SING.

In a normal two-way speaker you'd expect to find a 1" tweeter, operating above 3,000 Hz. That means the bass-mid driver has to reproduce all frequencies up to that point. However, it is severely compromised in this range, meaning that it loses or smears important musical details, information and nuance.

For us, the mid-high range is the soul of any loudspeaker. This is the area most critical to musical expression – and it is the area where our ear is most sensitive.

In a revolutionary response to this problem, we designed the Colibri C2's spherical horn to be very broadband, so that it can be used as low as possible. At 1.5", the UL1.5 driver is

large enough to reproduce frequencies down to 700 Hz, helped by the large, 350mm spherical horn that extends the frequency range downward.

But the diaphragm of the UL1.5 is also small enough and light enough to produce crystal clear frequencies up to 19,000 Hz.

What makes this possible is the UL1.5's incredibly low moving-mass: only 2.2 grams! It makes the driver both fast and agile. No other driver can reproduce the range from 700Hz with such efficiency, dynamic range and speed. This is the low-loss, low-distortion dream made real.



SUB C18.

THE SUPER DEEP BASS.

Low frequencies are very important for our sound environment. Add accurate, low bass notes and the realism of the reproduction improves significantly, with a sound that envelops the listener, bringing weight, body and musical authority.

But reproduction below 80 Hz has its own set of rules. Relatively speaking, these are "slow", long wavelength signals. For example, a 30 Hz tone has a wavelength of over 11 meters. Generating convincing low frequencies means moving a lot of air, which requires a large diaphragm with a long stroke and a powerful motor to produce realistic levels.

The diaphragm of the C18 low bass module has a very large diameter of 460 mm and is capable of +/- 10 mm displacement. That allows the driver to move an air volume approximately nine times as great as a comparable 8" high-end bass driver.

This very large diaphragm area allows the C18 to move enough air to produce a musically convincing bass note from a very short stroke, allowing for fast, agile and dynamic low bass reproduction down into the subsonic range. The air is also compressed less by the shorter stroke, which allows the bass to breathe more naturally and deliver greater physical and musical impact.

Did we say the C18 has a powerful motor? The driver has a 150 mm voice coil and a high power handling of 1,600 watts (AES2012 standard). This gigantic motor structure achieves superior, compression-free dynamic reproduction even at very high levels, with a superior power factor and minimal thermal compression.

Because we cannot actually locate low frequency sounds below 100 Hz, it is possible to place the C18 low bass module anywhere in the room. We have kept the C18's enclosure compact at 70 liters and the overall depth deliberately slim at 28 cm, so that it can be easily placed against walls, in the

corner of the room or concealed behind the sofa.

Internal braces stiffen and stabilize the cabinet. In addition, the front and rear baffles are firmly connected to each other by the massive metal frame of the 18-inch driver. Three elastomer damping elements provide additional reduction of vibration in the cabinet structure.





C-AMP1200.

POWER AND CONTROL.

Each C18 low bass module is powered by an internal C-AMP1200 power module. This integrated power and control amplifier consists of a 1,200 watt amplifier capable of providing ample headroom even with complex EQ settings.

Connection is via balanced or asymmetrical inputs. The two balanced, daisy-chain outputs allow any number of C18 modules to be interconnected.

The subwoofer can be automatically switched on via a signal detection circuit. After listening to music, the subwoofer auto-

matically switches to sleep mode after a programmed period of time.

The bass amplifier is equipped with an advanced digital sound processor. This allows seamless integration of the sound, to match different rooms, different circumstances and your own individual tastes. Parameter settings can be programmed directly on the unit or via the intuitive Colibri Control software.

Expanding the Colibri C2 loudspeaker with the external C18 low bass module opens the way into a whole new dimension of sound.

The air pressure in the room is directly modulated by the low frequency sound waves. You don't just hear, but can physically feel the air pressure change with your whole body.

We've all had that experience in a dance club or live concert, being totally immersed in the music and literally floating in the sounds. That's exactly the feeling the C18 creates in your home, even at low volumes. In fact, adding the C18 makes the music seem louder even at the same volume, making the musical experience delivered by the Colibri system even more intense.



SOUND.

PERFORMANCE ADVANTAGE THROUGH NUMBERS, DATA, FACTS.

Heard it for the first time: confused, shocked, overwhelmed? We've had every reaction to the sound of the Colibri. But the strength of those reactions relates directly to the technology built into the product.

LIGHTNESS.

Due to the feather-light moving mass of the driver diaphragms, the inertial forces of the Colibri are minimal. It can cleanly reproduce even the finest musical details at low volumes. The immediate listening impression does not depend on quantitative aspects such as frequency range or volume, but is defined by qualitative aspects such as presence and contrast. The uninhibited dynamic response of the Colibri increases the intelligibility of speech, tonal brilliance and subtle nuance in its musical reproduction, lifting its expressive range far above other, conventional speakers.

EFFICIENCY.

Due to the extremely high system efficiency, the Colibri suffers none of the usual dynamic compression, even at high volumes. It produces very high levels cleanly, even with low power amplifiers.

In fact, its extreme energy efficiency makes this by far the most environmentally friendly way to enjoy your music.

WIDEBAND MID/TWEETER.

The Colibri's wideband midrange/tweeter covers the entire frequency range from 700 to 19,000 Hz with one single driver, without break-up and therefore with better impulse response.

The absence of any crossover in this range eliminates intrusive phase shifts.

65 HZ CUTOFF FREQUENCY.

The lowest fundamental tone of almost all instruments and the human voice is above 65 Hz. Thus, despite limited really low frequency output, the Colibri still covers the important auditory spectrum with exceptional quality and clarity. If the system is extended via an external subwoofer, this only has to transmit frequencies up to around 50 Hz. That relieves it of having to reproduce the faster, and musically all-important mid-bass notes, instead delivering the low-bass foundation. That means that the Colibri can work effectively with almost any commercially available subwoofer.

C18 LOW BASS MODULE. (optional)

But if only the best will do, the C18 is the solution. Its very large diaphragm area displaces a large volume of air even at small excursions, allowing for very dynamic deep bass reproduction down into the subsonic range.

Since the air is compressed less than with smaller diaphragms, the sound is reproduced with greater body and physically impact.

LOW INDUCTANCE.

Low electrical inductance allows the speaker to respond more quickly to changes in the audio signal, producing greater precision and clarity.

It also generates a lower back EMF and is easier for the amplifier to control, bringing the best out of partnering electronics.

DESIGN.

FORM FOLLOWS PHYSICS.

The design of the Colibri follows lean and clearly understood design principles. Adhering to these principles ensures that the technology and functionality of all Avantgarde products serve their musical performance and emotional impact.

SIMPLICITY.

Products that are simple, clear and intuitive. The function must be immediately apparent from the design. Unnecessary or superfluous elements are eliminated.

MATERIAL QUALITY.

High quality materials and production methods that best perform the required function, that are durable and at the same time aesthetically pleasing.

FUNCTIONALITY.

A holistic approach that considers all other aspects of use in addition to sound quality: The method of installation and mounting; the adjustment of angle, alignment and sound propagation; harmonious integration into the living space.

UNIQUENESS.

Products with the spherical horn as the central element, unique in their functionality and design. A stringent design concept that is immediately recognizable as an Avantgarde product and that promotes identification with the brand.

INNOVATIVE.

Clear focus on innovations and new technologies. Constantly finding new ways to further improve the sound and thus the customer experience.

TIMELESS.

A clear, simple and harmonious design that is long-lasting and not influenced by short-term trends. Minimalist, reduced to the essentials - built for a little eternity.



NEST.

VERSATILE AND FULL OF VARIANTS.

Every Colibri longs for a loving nest, a place where it will be at home and aesthetically integrated into the ambiance of its proud owners.

To make it easier to find the right nest for the Colibri in your home, we have equipped it with a variety of optional mounting brackets, with the goal of creating an ambiance that meets the highest sonic standards.

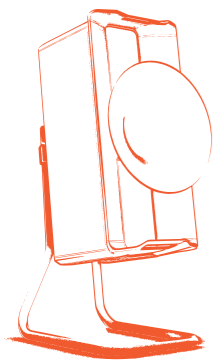
Its compact size and multiple installation options make it easy to integrate into even the smallest spaces.

Installation can be done directly on the integrated rubber pads or via various stands and wall mounts. Horizontal or vertical alignment is possible.

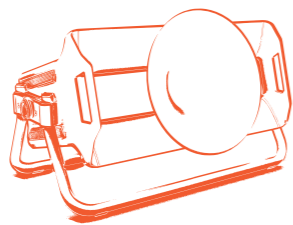
The integrated toothed rings allow precise tilt and height adjustments.

NEST.

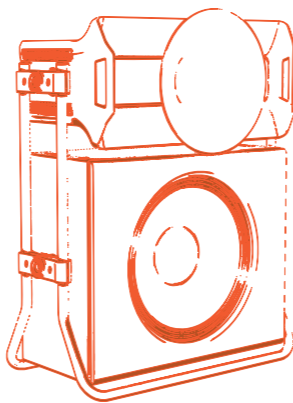
VERSATILE AND FULL OF VARIANTS.



SATELLITE



CENTER



SUB & SATELLITE





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