

WHITE PAPER

# R 10

A R R E T É



AUDIOVECTOR

Feel the Music



# THE R 10 ARRETÉ

*Enter the dual dimension*

With a heritage spanning 45 years, Audiovector continues to push the boundaries of high-performance audio. Once again, our latest flagship model opens a new dimension in sound.

Designed, engineered and hand-built in Denmark, the **Audiovector R 10 Arreté** seamlessly combines cutting-edge innovation, musicality and aesthetics to deliver what is quite simply the ultimate home audio experience.

Developed entirely from the ground up, every single component from the cabinet to the drive units has been purpose-designed to deliver the most natural, dynamic, and open sound reproduction Audiovector has ever achieved.

The R 10 features the same unique concertina suspension and damping factor regulation found in the groundbreaking Trapeze Reimagined. Yet it also incorporates a suite of the latest generation of Audiovector innovations that combine to transform music from an experience the listener merely hears, into one they actually feel.

## **HYPER TWEETER SOUNDSTAGE ENHANCEMENT CONCEPT (SEC)**

The newly developed Dual Air Motion Transformer works in harmony with our Soundstage Enhancement Concept (SEC). It delivers an exceptionally open, precise and three-dimensional treble – allowing music not only to be heard, but truly felt. The main AMT tweeter covers frequencies from 3,000 Hz to 53,000 Hz. This zero-compression tweeter features an open-backed driver with a rear cabinet exhaust, preventing back-pressure buildup, maintaining a natural and effortless high-frequency extension, free from mechanical limitations.

A dedicated hyper tweeter then extends the treble response to 20,000 Hz to 53,000 Hz - beyond human hearing. This maximises the retrieval of fine details and ensures superior imaging within the soundstage; delivers an expansive and detailed top end with extraordinary micro dynamics; and enhances air, spatial cues, and resolution, particularly in high-resolution formats.

The pleated mylar membrane is exceptionally light and well-controlled, with aluminium leading strips providing structural stability. Advanced internal damping ensures remarkably low distortion, while our proprietary etching process – perfected through extensive testing – optimises the configuration of the diaphragm.

Powerful N 51 neodymium magnets provide excellent acceleration and control. And the two-point driver installation system minimises interaction between components to virtually eliminate energy transfer between the cabinet and the drivers.

The Audiovector Air Motion Transformer (AMT) remains the only AMT tweeter true to the original design of Dr. Oscar Heil, offering both sufficient membrane control and controlled rear radiation.

## **LINE ARRAY BASS SYSTEM**

The rear-facing bass line source is ideal for evenly distribution of bass energy throughout the listening room. The R 10 Arreté features eight long-throw drivers, each with a linear travel of  $\pm 12$  mm. They provide a cumulative membrane surface equivalent to that of a single 15-inch driver. Dividing the bass across multiple fast subwoofer drivers, however, results in greater speed and precision.

These bass drivers extend up to 2,000 Hz with a tapered frequency response. On the front baffle, two upper bass/lower midrange drivers deliver fast, precise, and undistorted performance in the crucial lower midrange area where the majority of musical dynamics reside. Together with the rear-facing bass system, they create a vast and open soundstage with deep, involving bass.

## **ACCELERATED FORCE CONCEPT (AFC) – ADVANCED MIDRANGE PERFORMANCE**

A high-performance AMT tweeter deserves an equally fast and precise midrange driver. Audiovector has long sought to reduce the inherent inertia present in dynamic drivers – an ambition that has resulted in new midrange drivers featuring groundbreaking and highly unconventional technology.

The Accelerated Force Concept (AFC) delivers a wider dynamic range, greater micro-detail resolution, lower distortion and a deeper soundstage. It works by accelerating the first millimetres of movement without losing control. An improved torque effect at startup reveals the smallest details, rather than drowning them out during the initial movement

We have replaced the conventional heavy half-roll surround, which can inhibit high-frequency performance, with a light concertina suspension crafted from a unique blend of natural and neoprene rubber. This allows it to work in synergy with AFC to create the turbo effect on the minimal initial movements while improving high-frequency detailing. This results in a cleaner sound, better dynamics and a more detailed soundstage, all while preserving lifelike vocal and instrumental textures. The low-frequency performance is, quite simply, unprecedented.

The membrane itself comprises a carbon-fibre and natural resin sandwich engineered for maximum stiffness, lightness, and damping. In short, an ideal combination for a diaphragm.

Titanium voice coils and distortion-controlling pole pieces further enhance driver performance, ensuring unmatched accuracy and clarity.

These technologies combine to result in a cleaner sound, better dynamics and a more detailed soundstage that sets the R 10 apart from any other loudspeaker. This unique capability to perceive any track with utmost clarity in all its expressive nuances brings listeners closer to the music.

### **HIGH-EXCURSION, FAST 5-INCH BASS DRIVERS**

The eight 5-inch bass drivers feature light, rigid membranes and a long-throw motor system. Delivering the impact of a 15-inch driver but with greater speed and precision, their line-source configuration evenly distributes bass and reduces common room-induced bass issues.

### **TEARDROP-SHAPED CABINET = NO STANDING WAVES**

In a typical loudspeaker enclosure, standing waves make it necessary to incorporate excessive damping materials. This can result in a loss of energy and dynamics. The R 10 Arreté is different. Our trademark teardrop-shaped cabinet effectively eliminates these standing waves and any associated distortion.

The cabinet is crafted from high-density hardwood fibreboard that is both vacuum-formed and heavily braced. Supported by 6061 precision-milled aluminium baffles, this structure minimises vibration and distortion. In doing so, it provides a perfect foundation for the spectacular performance of our new mid-bass driver.

### **PROPRIETARY CROSSOVER TECHNOLOGY**

As with every other Audiovector component, the R 10 Arreté crossover is designed and built to uncompromising standards.

The Audiovector in-house double cryogenically treated capacitors combine polypropylene dielectrics with tin-flashed copper foil for an exceptionally musical sound. Distortion-optimised copper coils in a Dynamic Feed Forward (DFF) configuration reduce resistance and distortion. Audiovector bypass capacitors, meanwhile, preserve the highest treble harmonics for ultimate realism.

Unlike conventional loudspeakers, which tend to rely on reactive wire-wound resistors, Audiovector models integrate precision film resistors to guarantee a smooth and refined treble response.

### **UNIQUE DAMPING CONTROL**

The R 10 Arreté incorporates a unique damping adjustment feature allowing the listener to seamlessly match the loudspeaker to the amplifier being used.

- **Position 1: For transistor amplifiers with a medium damping factor.**
- **Position 2: For high-power transistor amplifiers with a high damping factor.**
- **Position 3: For valve amplifiers with a low damping factor.**

Careful listening will determine the ideal setting for any given system.

### **SECOND-GENERATION FREEDOM GROUNDING® CONCEPT**

Our revolutionary Freedom Grounding® technology reduces movement-induced distortion within and between the drive units. Operating all the way up into the highest MHz frequency range, it is 50% more efficient than the original Freedom 1. A dedicated grounding filter processes unwanted currents from the driver chassis, which would otherwise cause coloration and distortion. This filtered signal is then routed to the ground terminal of either a wall socket or a grounded mains distribution unit. The result is a cleaner, more engaging sound with a lower noise floor and enhanced realism.

## TECHNICAL SPECIFICATIONS

FREQUENCY RESPONSE	IMPEDANCE	SENSITIVITY	CROSSOVER FREQUENCIES
21 Hz – 53,000 Hz in room	8 Ohms nominal, 5 Ohm minimum	90 dB/W	180 Hz, 450 Hz, 3,000 Hz, 20,000 Hz

BASS DRIVERS	LOWER MIDRANGE DRIVERS	MIDRANGE DRIVER
8 × 5" long-throw, low distortion	2 × 6.5" AFC carbon sandwich	6.5" AFC carbon sandwich

TWEETER	HYPER TWEETER	TERMINALS
3800mm <sup>2</sup> AMT N51	3800mm <sup>2</sup> AMT N51	High Current Nextgen Bi-Wire for 4mm plugs or spades

DIMENSIONS	WEIGHT
H156 × W36.5 × D62.7 cm without spikes	Approx. 95 kg per unit

FINISHES
Canadian Birdseye Maple, African Mahogany Crotch, Italian Walnut Burl. All finishes are piano lacquered. Custom painted finishes available on request (RAL/Pantone).



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BEST REGARDS

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