

OVATOR





THE STORY OF THE

OVATOR

The Ovator S-600 is the result of a three-year development programme and represents both a remarkable new expression of proven Naim speaker engineering and a technological advance that, quite literally, recasts the accepted ground rules of electro-acoustics.

Constructed on the rigid foundation of a pressure die-cast aluminium plinth, the Ovator S-600 comprises a visually stunning leaf-spring decoupled enclosure fitted with two custom-designed rigid paper cone bass drivers. Located above the bass drivers, within a nested and leaf-sprung aluminium enclosure, is a uniquely advanced Balanced Mode Radiator. The Balanced Mode Radiator reproduces all six octaves from the 380Hz crossover point to well above audibility with a flat frequency response, minimal distortion and consistently wide dispersion.

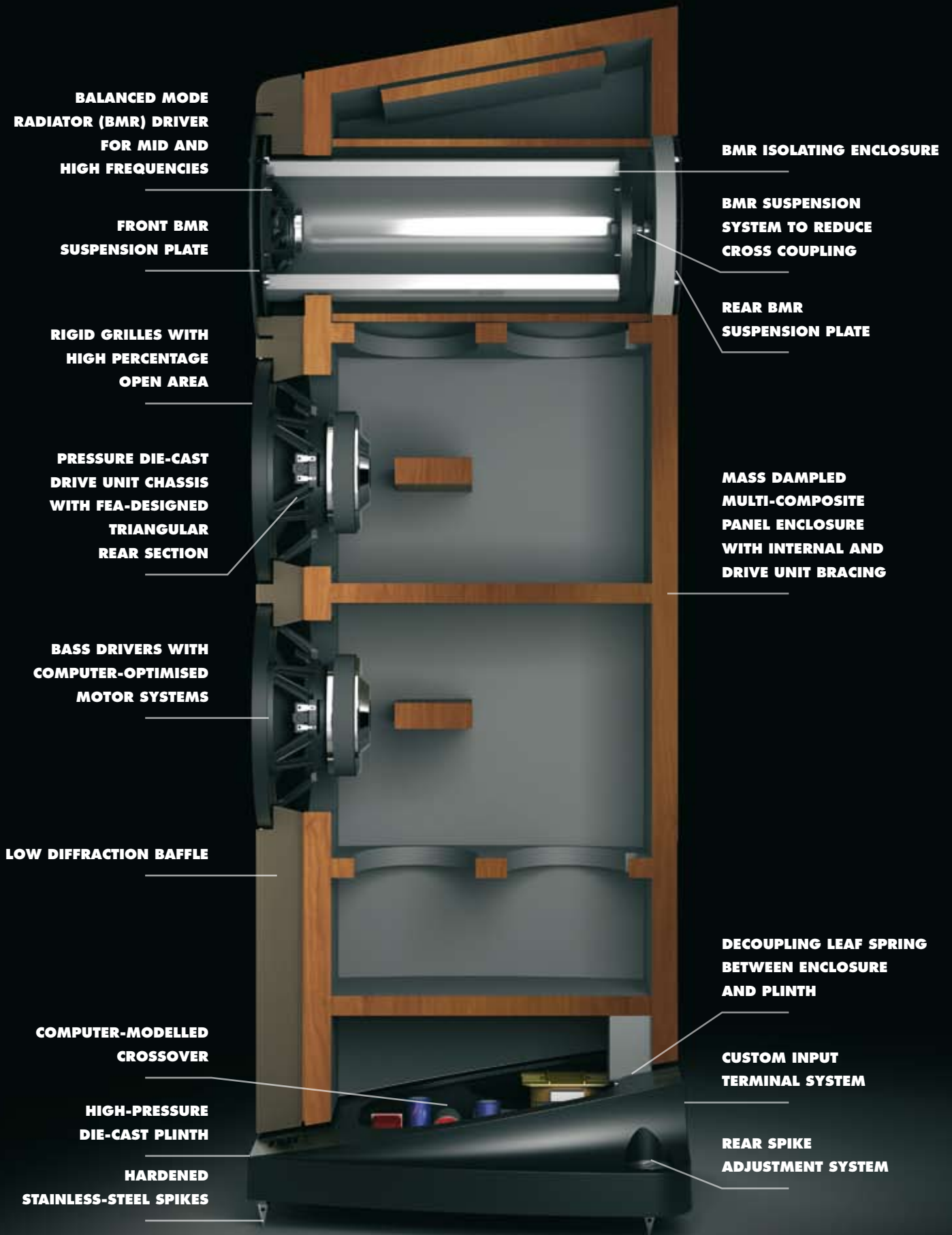
Encasing all of this, the Ovator S-600's striking, curved-panel enclosure is an outstanding example of contemporary aesthetic industrial design. Its form is striking yet subtle and with four real wood veneer finishes available it integrates effortlessly into domestic settings of any style.

Music heard through the Ovator S-600 is a revelation. The uncoloured, detailed and natural coherence of the Balanced Mode Radiator combines with the rhythmic clarity and accuracy of the twin bass driver system endlessly to reveal previously unheard musical details and insight. Stereo imagery and recorded ambience is portrayed with scale and depth that remains consistent across the listening room, and with the Ovator S-600 an entire music collection becomes new again. The speaker is the point at which recorded music leaves the world of electronics and becomes real. With the Ovator S-600, the reality is a musical experience unlike any heard before.



INSIDE THE

OVATOR



**BALANCED MODE
RADIATOR (BMR) DRIVER
FOR MID AND
HIGH FREQUENCIES**

**FRONT BMR
SUSPENSION PLATE**

**RIGID GRILLES WITH
HIGH PERCENTAGE
OPEN AREA**

**PRESSURE DIE-CAST
DRIVE UNIT CHASSIS
WITH FEA-DESIGNED
TRIANGULAR
REAR SECTION**

**BASS DRIVERS WITH
COMPUTER-OPTIMISED
MOTOR SYSTEMS**

LOW DIFFRACTION BAFFLE

**COMPUTER-MODELLED
CROSSOVER**

**HIGH-PRESSURE
DIE-CAST PLINTH**

**HARDENED
STAINLESS-STEEL SPIKES**

BMR ISOLATING ENCLOSURE

**BMR SUSPENSION
SYSTEM TO REDUCE
CROSS COUPLING**

**REAR BMR
SUSPENSION PLATE**

**MASS DAMPED
MULTI-COMPOSITE
PANEL ENCLOSURE
WITH INTERNAL AND
DRIVE UNIT BRACING**

**DECOUPLING LEAF SPRING
BETWEEN ENCLOSURE
AND PLINTH**

**CUSTOM INPUT
TERMINAL SYSTEM**

**REAR SPIKE
ADJUSTMENT SYSTEM**



Surgical grade, anti-magnetic, stainless steel M8 floor spikes define the vital mechanical interface between speaker and the floor of the listening environment.

**HARDENED
FLOOR SPIKES**



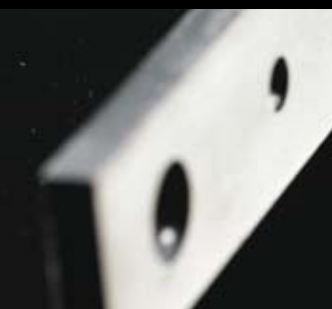
The bass driver chassis incorporates features on its mating surface that consistently define its interface with the cabinet and help manage vibrational energy.

**FEA MODELLED
DRIVER CHASSIS**



The crossover incorporates state of the art components including laminated and air-cored inductors, and metallised polypropylene capacitors.

**COMPUTER-MODELLED
CROSSOVER**



A steel leaf-spring defines the interface between enclosure and plinth and decouples above 12Hz.

**DECOUPLING
LEAF SPRING**



The pressure die-cast plinth incorporates enclosure interface locations, housing for the crossover, and floor spike fittings with top-access adjustment.

**DIE-CAST
PLINTH**



The enclosure is constructed from a combination of 25mm and 50mm panels comprehensively braced to provide a rigid, non-resonant and low diffraction reference plane for the drivers. Selected panels also benefit from strategic mass-damping, and the internal bracing includes a division that creates separate loading volumes for each bass driver.

**RIGID MULTI-COMPOSITE
ENCLOSURE**

THE OVATOR UP CLOSE

The Ovator S-600's Balanced Mode Radiator (BMR) constitutes its most visible technological advance, yet its performance is equally the result of painstaking refinement in numerous elements of design, construction and material selection.

For example, there is so much more to the musical reproduction of bass than low frequency extension, so the Ovator S-600 LF driver is designed not simply to play bass, but to do so with faultless musical accuracy. It incorporates a multitude of electro-acoustic details aimed at minimising distortion and compression, and the result is extended bass with peerless timing, dynamics and pitch accuracy. One vital element in the design of a high performance bass driver is its chassis. Great rigidity and an open structure are vital but potentially conflicting requirements, so the Ovator S-600's pressure die-cast bass driver chassis incorporates a triangulated framework, borne of finite-element analysis, that ensures both rigidity and unimpeded air passage.

The Ovator S-600 crossover network is housed within the plinth and divides the audio signal between bass drivers and BMR with fourth order acoustic slopes at 380Hz. Each component selection is the result of intense technical analysis and listening, and the component arrangement is fundamentally informed by the layout and earthing techniques developed for Naim power amplifiers. A crossover module suspension system and individual component decoupling ensures any chance of microphony is minimised. Conversion to either bi-amp or tri-amp active drive is easily achieved through removal of the crossover module.

Just as much as it is BMR technology, it is the fine detail and the sum of the parts – the result of decades of speaker experience and development – that makes the Ovator S-600 so remarkable.

The Ovator S-600 bass driver features a rigid paper cone and natural rubber surround together with aluminium demodulation rings within the magnet system and generous pole-piece ventilation. Its linearity and resistance to compression is outstanding.

**COMPUTER OPTIMISED
BASS DRIVER**





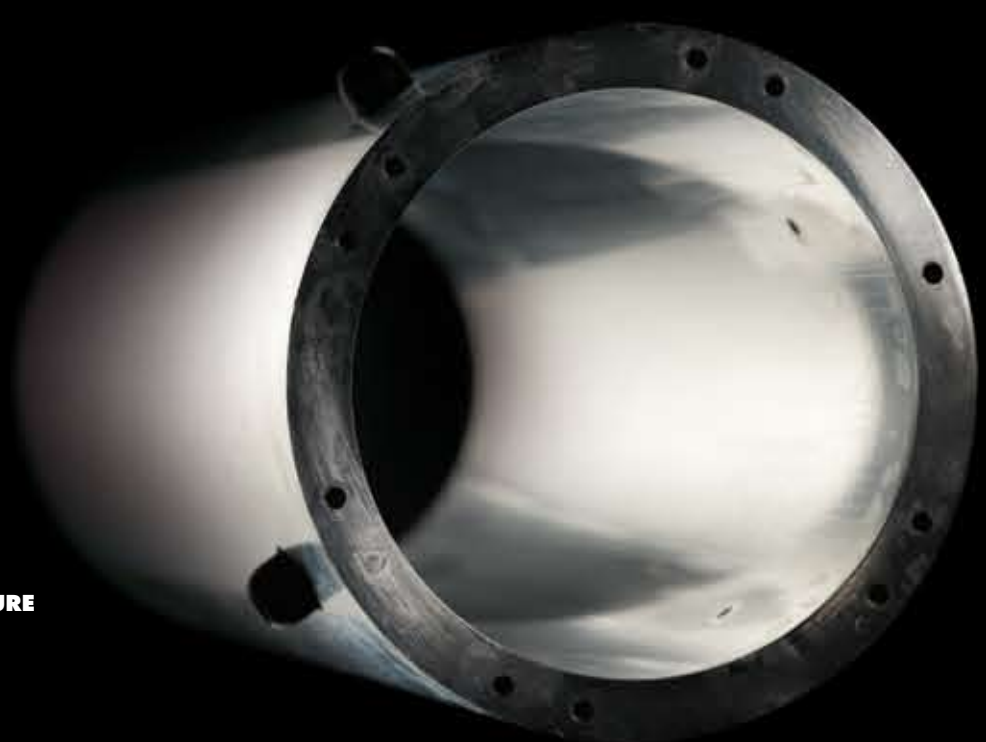
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BALANCED MODE RADIATOR EXPLAINED

The Ovator S-600 Balanced Mode Radiator (BMR) is the result of intense effort in both development and manufacture. Not only does the design of such a driver demand great intellectual understanding, but consistent manufacture requires extraordinarily fine specification and control of the physical characteristics of its components.


The underlying concept of the BMR is to engineer a practical implementation of the theoretically wide bandwidth and linear acoustic output of an unconstrained vibrating diaphragm. In practice, this is achieved by attaching balancing masses to a constrained diaphragm in carefully calculated locations. Such "mode balancing" modifies the diaphragm's vibrational behaviour so that it simultaneously operates in pistonic and vibrational modes to generate wide-bandwidth acoustic output with a flat frequency response, consistent dispersion and low distortion. Thanks both to the BMR's exceptional inherent performance and to the absence of any mid/high frequency crossover discontinuity, it takes just a moment's listening to appreciate the Ovator S-600's breakthrough levels of musical coherence, timing and clarity.






The BMR is mounted in a 12.7mm wall thickness extruded aluminium cylinder nested within the main enclosure. The cylinder, extending the full depth of the enclosure, is gradient-filled with damping materials selected through technical analysis and critical listening.

BMR ISOLATING ENCLOSURE



The BMR driver comprises a honeycomb diaphragm driven by a voice-coil immersed in a twin-neodymium magnet system optimised for linearity through finite-element analysis. The pressure die-cast chassis provides the rigidity necessary to ensure that every last note of musical detail is accurately reproduced.

BMR DRIVER



The module comprising the BMR and its enclosure is suspended within the main enclosure by twin circular duralumin plate leaf-springs – one at the front of the enclosure and one at the rear. The resulting suspension system decouples above 4Hz – more than six octaves below the BMR pass-band.

BMR SUSPENSION

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Finishes available



Ovator S-600 specifications

Frequency response (in room):	28 - 35000Hz
Sensitivity:	88dB for 2.83Vrms i/p
Nominal impedance:	4 Ohm (Minimum Impedance 3.2 Ohm)
Suggested power amplifier rating:	25 - 150W (8 Ohm rating)
Weight:	61 kg
Dimensions (including spikes and grilles):	1168x401x434mm (HxWxD)



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