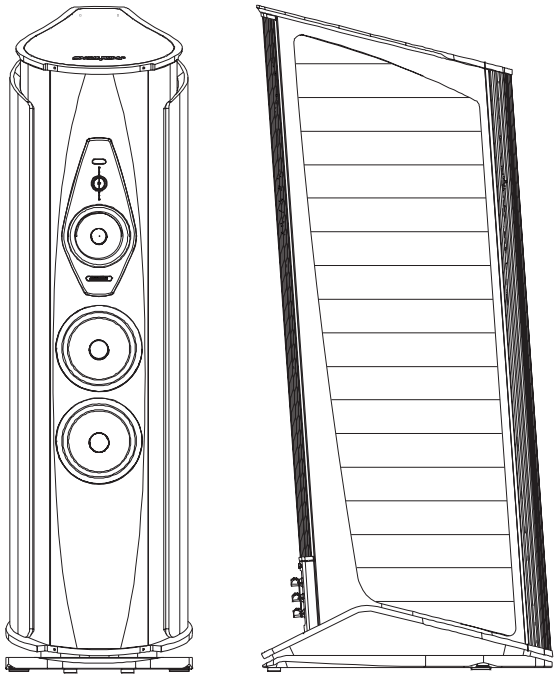

Aida
ART OF A NEW ERA
Sonus faber
FINE SOUNDS
GROUP

"Silence is the canvas where music is painted".

Aida

ART OF A NEW ERA



From the fusion of "tradition"and "technological innovation" comes the beauty of a new era.

Like "Aida", the greatest expression of Verdi's talent, which represents a wonderful blend of the tradition of Italian melodrama and innovation through abandoning conventions, so too is the new Aida project a blend of tradition and innovation.
A synthesis that expresses beauty.

The thirty year tradition of Sonus faber is condensed in this new and extraordinary project. It is our core values that gather the fruits of our labours in the progress made through Amati futura and Guarneri evolution. They marked important milestones and are crowned by an even deeper awareness of the roots of Sonus faber.

This experience has lead Sonus faber to enhance the best elements of its traditional approach, such as the knowledgeable use of natural materials for the transducer membranes, regardless of the trends and fashions of the moment, thus reinventing the pillars of our identity.

Data sheet

SYSTEM: 3.5 way, Sound field Shaper Technology, "Zero Vibration Transmission" technology, para-aperiodic vented box "Stealth Reflex System", staggered low frequency floorstanding loudspeaker system.

CABINET: "Lyra shape" design, dual side curvature, special cross grained okoumè plywood, used in a double thickness constriction layer damped configuration. Sub–structural ribs are strategically placed for total rejection of spurious vibrations and standing waves control.
Two "dampshelves" (from the "the Sonus faber" experience), i.e. CNC anodized machined avional "vibration dampers" (on the top and on the bottom of the cabinet) "stiffen" the column structure reducing consistently structural micro-vibrations coming from the cabinet walls and the transducers. The "Anima legata" system is used in an innovative way, encompassing the 3 inner chambers of the front firing drive units. A special steel rod, a high speed mechanical interface, concentrates the remaining micro-vibrations conveying them to the dual multiple "Tuned Mass Dampers", i.e. two differently tuned special custom devices optimized to erase micro-vibrations, by oscillating in anti-phase.
A totally new floating bridge "Bow spring" suspension for vibrational interface has been devised to decouple the enclosure from the floor through the Zero Vibration Transmission technology, a patent pending suspension system, eliminating any acoustic feedback and any vibration propagation to the listening room.

TWEETER: Sonus faber "Arrow Point" DAD (Damped Apex Dome, synthesis of the classic dome and ring transducer) 29 XTR-06. A Sonus faber designed 29 mm moving coil driver, with Sonus faber's vibration optimized mechanical interface. The ultra dynamic linearity is given by the new Neodymium motor system. Implemented with a natural wood acoustic labyrinth rear chamber, a mechanical anti-resonator designed for this application.
To perfectly match the high frequency performance to different listening rooms and different tastes it is possible to adjust the SPL of the tweeter.

MIDRANGE: Sonus faber M18 XTR-08. A Sonus faber designed 180 mm neodymium magnet system ultra dynamic linearity midrange. CCAW wire is used on a composite former "eddy current free" voice coil. The dynamically linear magnetic field motor incorporates triple Kellog/Goeller rings. A special custom diaphragm is made with a real time air dried non pressed blend of traditional cellulose pulp, kapok, kenaf and other natural fibers, developed according to the most natural sound. To further inhibit any residual cone coloration we are using a transparent viscous surface damping coating.
The basket is thoroughly optimized to eliminate any resonance, thanks to a high-tech dual metal (Avional and Gun Metal), CNC machined from solid billets. The combination of the two different materials, Avional and Gunmetal, allows eliminating any mutual resonance. The same way as the tweeter, the midrange is decoupled from the main baffle board and designed synergistically with its optimized "acoustic chamber". A special coaxial anti-compressor is used, designed to remove cavity resonances and distortions.

WOOFERS: Sonus faber W22 XTR-12. A pair of Sonus faber designed 220 mm lightweight "sandwich" cone structure (high-tech syntactic foam core and two external surface skins of coated cellulose pulp) woofers are embedded in an acoustically amorphous "stealth reflex" chamber. Designed to blend perfectly with the special midrange and, at the same time, to have absolute definition in their range: the sandwich structure with outer paper pulp skins has the same sonic character of the midrange cone. A long-throw motor system with a 2" controlled "eddy current" voice coil is implemented for high speed, performance and linearity.
Special coaxials anti-compressor are used, designed to remove cavity resonance and distortions.

INFRA WOOFER: Sonus faber SW32 XT-08. Sonus faber designed a 320 mm infra woofer, lightweight honeycomb composite sandwich cone structure with Nanocarbon technology for a maximum rigidity and implemented it in an acoustically amorphous "stealth reflex" chamber. The unit features a very powerful long throw motor with a 3" voice coil for ultra dynamic linearity. To perfectly match the low-end performance to different listening rooms it is possible to adapt the SPL of the infra woofer.

SOUND FIELD SHAPER: The special patented Sound field Shaper technology, a direct derivation from the "the Sonus faber", allows the control of the direct/reverberant radiation ratio of the Aida. The sound field shaping module can be SPL optimized.

SOUND FIELD SHAPER TWEETER: 29 mm ultra dynamic linearity neodymium dome driver. Optimized off-axis radiation for this special application.

SOUND FIELD SHAPER MIDRANGE: 120 mm, paper pulp/natural fiber blend cone driver for maximum coherence with the front midrange emission.

CROSSOVER: Non-resonant design, optimized amplitude/phase response for optimal space/time performance. "Paracross topology" on the tweeter hi-pass.
The impedance at low frequencies is controlled for a clear and friendly amplifier performance. Triple staggered transfer function low frequency/room interface optimized filter. Highest quality is used in terms of the components: Mundorf "Supreme" Silver/Gold/Oil capacitors, Jantzen inductors. Cross-over: 55Hz - 180 Hz - 250 Hz - 3000Hz.

FREQUENCY RESPONSE: 20 Hz – 35.000 Hz, Stealth reflex included

SENSITIVITY: 92 db SPL (2.83V/1 m)

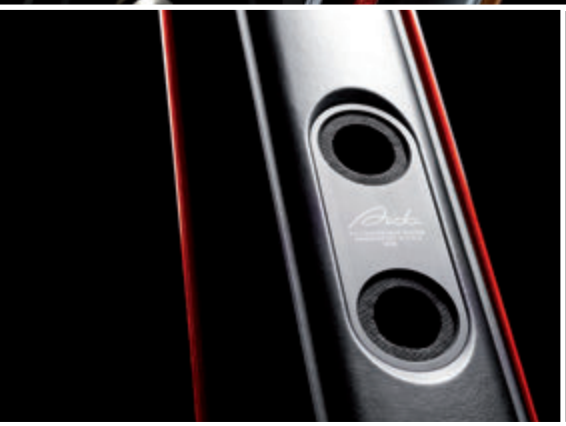
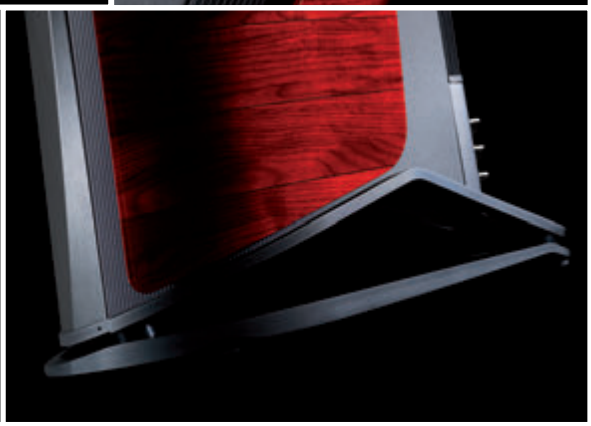
NOMINAL IMPEDANCE: 4 ohm

POWER HANDLING: 100W – 1KW, without clipping

DIMENSIONS (HxWxD): 1725mm x 482mm x 780mm

WEIGHT: 330 Kg per pair



Technical specifications

ELECTROACOUSTIC PROJECT
Aida is a 3.5 way floor speaker, in the shape of a "lyre", divided into separate tuned chambers. It takes advantage of sound field shaper technology, a new optimised system for the decoupling of speaker/floor "Z.V.T." (Zero Vibration Transmission) "Bow Spring", a new dual kinetic-thermal conversion system for the removal of residual vibrations "T.M.D." (Tuned Mass Damper) as well as para-aperiodic tuning system "Stealth Reflex".

THE "SILENT CASE"
With this simple statement we want to reiterate that the total credibility of music reproduction implies the perfect reproduction of one of its essential components: the space between one note and another, that is to say "silence". In electro-acoustics by "silence" we mean the removal of all vibrations and spurious sounds that can contaminate the purity of the musical message.
Correct reproduction of silence should be, therefore, the final frontier for a state of the art speaker system.
The best way to achieve this objective is to painstakingly focus on the design and development of the acoustic case, implementing tested solutions in order to eliminate all vibrations and spurious noises that damage the integrity of the sound.

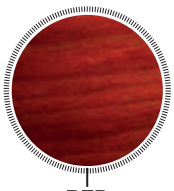
THE ACOUSTIC CASE
Aida's case is a complex system that inherits its structural concept directly from the "the Sonus faber".
The dual "waved" curvature typical of the shape of the "lyre" creates a geometry that, compared to previous solutions, substantially increases structural strength and guarantees exceptional management of the energy produced inside the acoustic chambers by the drivers.
The complex damping system adopted further removes any possible final resonance: both the internal walls and the outside "wings" have dual curvature in multi-layered cross-veined okoumè plywood and are technically implemented through a decoupling system consisting of a foil in a viscous-insulating material, thus making use of the "constrained layer damping" technique to the fullest.
The "acoustic environment" of each single transducer is then optimised to as close to theoretical perfection as possible: on one hand specific reinforcing structures are strategically placed within each individual acoustic space and, on the other, each one of these is insulated with different materials, from open cell thermoplastic foam to fibrous materials, similar to the felt used in pianos, selecting the most appropriate material or materials for each specific application.

THE "DAMPSHELVES", THE "ANIMA LEGATA" AND THE "TUNED MASS DAMPER"
Metal and the idea to mould it represents the "new material" that allows Sonus faber to exceed itself. The upper and lower "Dampshell" in Aida, which is made up of the incredible "Bow spring", two elements obtained from the full turning of massive slabs of avional, (in the case of the "bow spring" we must also consider an advanced process of controlled bending), were designed to operate as collectors of vibrations and, thus, substantially contribute to the attainment of excellent reproduction of silence. The new "Anima Legata" was specifically designed for Aida. It consists of an "anti-vibration axis" in a non-magnetic steel alloy which binds the inner driver chambers for front-main emissions. The tension is optimised in traction, speaker by speaker, using a dynamo-meter device. The "Anima Legata" conveys the spurious oscillations towards critical nodal points where a differential frequency dual "Tuned Mass Damper" is positioned, a device used in the record high skyscrapers in the world and F1 racing cars which dissipates, by oscillating in "anti-phase" direction, the remaining micro structural resonances, thus carrying out a thermal-kinetic conversion of residual micro vibrations.

THE "Z.V.T.: ZERO VIBRATION TRANSMISSION BOW SPRING" SYSTEM
The perfect reproduction of silence, however, cannot be obtained by solely developing and devising a totally inert acoustic case: the management of the interaction between the speaker and the environment must be addressed as well. This is why Aida is mechanically decoupled from the floor through the patented system "Z.V.T.", Zero Vibration Transmission.
This system is specifically optimized and implemented suspension with a hybrid system called "Bow Spring" which uses a folded "crossbow" in controlled flexibility and progressively yielding elastomer.
This system not only totally reduces the transmission of spurious vibrations into the the listening environment and blocks the adverse phenomenon such as acoustic feedback, but also allows the infra-woofer to function freely in a "ground-effect".

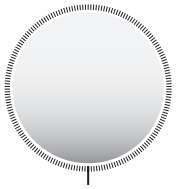
THE "STEALTH REFLEX" SYSTEM
The "Stealth Reflex" system, deriving from the "the Sonus faber", is an innovative and patented "para-aperiodic" interpretation of the tuned load.
Besides allowing for reduction in the dimensions of the acoustic volumes, providing greater extension in low frequencies response and dramatic containment of every form of distortion, it also eliminates spurious wind noises, typical of traditional reflex systems, thus also substantially contributing to the correct reproduction of silence.

AVAILABLE FINISHES


RED


WALNUT


GRAPHITE


WHITE

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