

AMATI FUTURA

Andrea Amati (Cremona 1505-1577) is the founder of the famous School of violin-making in Cremona in the XVI, XVII and XVIII centuries.

Known as one of the most talented violin-makers in history, he manufactured instruments with vital sound and supreme sweetness.

The careful choice of wood and the beautiful varnish contributed, moreover, to further enhance the value of the works of this great artist.

At present there are sixteen known instruments by Andrea Amati, some of them produced on behalf of Charles IX of France.

Overture

Amati futura was born as direct “trickle-down” of the experience, solutions – both esthetic and technical - and patents, as featured in “The Sonus faber”. The Amati Futura, on the other hand is part of the Homage series, the tribute to the violin makers of the Cremona school, so there is a solid link with the Sonus faber classic tradition, while being radically innovative .

Our goal for this project was to highlight the great R&D effort that has been invested in “The Sonus faber”, not to be considered an “isolated episode” but a capital of know-how serving the best possible reproduction of music .

Amati futura is the first step in this exciting direction.

Electroacoustic Design

System

3.5 way Lute shape" floor standing vented speaker system. Highly optimised speaker/floor decoupling thanks to the use of the "L.V.T." (Low Vibration Transmission); A "T.M.D." (Tuned Mass Damper) device is used to further damp residual resonances through a thermo-kinetic conversion; The "Stealth reflex" para-aperiodic solution is used for venting the cabinet.

Acoustic enclosure

The cabinet is the highest expression of the Lute shape design. The progressive curvature walls, made out of cross-grained okume multilayer plywood, are technically implemented in a "constrained layer damping" fashion. The "acoustic ambient" of every transducer has been designed to come as near as possible to the theoretical optimum. Specific stiffening ribs are strategically engineered in each acoustic sub-enclosure.

Innovative features

The "Exo-Skeleton" clamp is implemented by the 2 CNC machined avional nickel-plated end-covers (on the top and on the bottom of the cabinet). Their role is to control and constrain residual resonances of the enclosure walls. The two end-covers are linked by the dual avional rear "wings", functioning as an high speed mechanical interface that conveys spurious vibrations to the base of the cabinet. A "Tuned Mass Damper", with multiple tuning frequencies, as seen on record skyscrapers and F1 cars, converts the residual vibrations into heat (thermo-kinetics) by out-of-phase vibrations.

The speaker system is mechanically decoupled from the floor by the patented L.V.T. system (Low Vibration Transmission). This is an elastomer based suspension system to substantially reduce transmission of spurious vibrations to the listening room; also acoustic feedback phenomena are inhibited.

The "Stealth Reflex" is the Sonus faber patented solution to implement a para-aperiodic vented system. Besides allowing to reduce the dimensions of the cabinet, better low frequency and lower distorsions

are reached. It has also the advantage of eliminating the port noises typical of classic bass-reflex systems.

Finishes

The finishes of the wooden parts of the Amati Futura are a direct derivation of those of "The Sonus faber" and in the best tradition of the violin makers, are made with 7 layers of hand polished lacquer, carefully applied by our artisans.

The Avional metal parts of the "Exo-skeleton", on the other hand, feature high-tech, exclusive Nickel coating chemical processes. This surface finish is over 30 micron thick, extremely tough and homogen, with a remarkable resistance to corrosion. It is made in a multiple phase process, with a first mirror polishing/coating step, followed by two successive ones, each one with different chemical/timing specifications .

Drive units

In spite of using the most advanced technologies and the means to measure them, in Sonus faber there is the belief that the only real judge of the design choices, at the end of the day, is the human ear, the most fabulous and peerless instrument.

This is a paramount criteria that since the beginning of Sonus faber, is the key to the design philosophy.

In the R&D phase every component is analysed and eventually chosen, according to this principle. All drive units are manufactured on an exclusive basis on Sonus faber specifications, by the most famous scandinavian producers. Further enhancements, as for the Amati futura, are applied in the Sonus faber factory, before the final assembly

The high frequency spectrum

The high frequency spectrum is being handled by a classic Ragnar Lian 29 mm "Ultra dynamic linearity" tweeter, visco-elastically decoupled from the front baffle.

The midrange spectrum

The midrange is the key element among the transducers of the Amati futura. The 7" cone has been chosen for it's most natural sound. The use of a special air dried, non-pressed paper pulp gives these excellent

results. The powerfull magnet system, with the 1.7" voice-coil and the triple Kellog/Goeller copper rings make this unit "eddy current free". As the tweeter, the midrange is visco-elastically decoupled from the front baffle.

The low frequency spectrum

The dual 9" woofers have been designed to get the best possible definition in their passband. The solution has been to use AlMg cones, in a "layer-damped" structure, by damping the cone resonances with a foamed, closed cell high hysteresis elastomer. The 1.5" "controlled eddy current" voice-coils, together with the powerful long throw magnet systems warrant excellent performances in terms of both dynamics and linearity .

The crossover

A special attention has been given to the design of the crossover of the Amati futura, to address the musical criteria of Sonus faber. The choices of the transfer functions along with the relative drive units, define the quality of the speaker system. The Amati futura crossover uses the "progressive slope" architecture now tipical of Sonus faber since the Cremona M and Liuto series. Great attention has been paid to have the best amplitude and phase response. The crossover frequencies are 80/220/3200 Hz . The best possible quality according to the sonic performance has been the central criteria for selecting the components for the crossover : Mundorf "Supreme" capacitors, Jantzen inductors .

Design specifications

SYSTEM:

3.5 way, low spurious vibration optimized suspension, stealth reflex para-aperiodic loading, staggered low frequency floorstanding loudspeaker system.

CABINET:

Lute shape design, multilayer, constrained-mode damping, enclosure formed using hand selected wood layers, quality graded and oriented for carefully optimized resonances control.

Sub-structural ribs are strategically placed for absolute rejection of spurious vibrations. "New Era" avional (from "The" experience) exo-skeleton clamp structure with "The" Tuned Mass Damper inhibiting the residual resonances of the wooden structure.

TWEETER:

29 mm ultra dynamic linearity classic Ragnar Lian moving coil driver, Sonus faber vibration optimized mechanical interface.

MIDRANGE:

179 mm, ultra dynamic linearity driver. CCAW/Kapton "eddy current free" voice coil.

Dynamically linear magnetic field motor incorporating triple Kellogg/Goeller rings. Real time air dried and non pressed cellulose fiber cone. Designed synergistically with its optimized "acoustic chamber".

WOOFERS:

220 mm, lightweight elastomer foam damped Aluminium/Magnesium alloy cone driver in an acoustically amorphous "stealth reflex" chamber. A long-throw motor system with a 1,5" controlled "eddy current" voice coil is implemented for high speed, performance and linearity.

Special coaxial anti-compressor are used, designed to remove cavity resonance and distortions.

CROSS-OVER:

Non-resonant "progressive slope" design, optimized amplitude/phase response for optimal space/time performance. HC (Hot Cold) topology on the tweeter hi-pass. The response at low frequencies is controlled for a clear amplifier friendly performance. Dual staggered transfer function low frequency/room interface optimized filtre. Highest quality is used in terms of the components: Mundorf "Supreme" capacitors, Jantzen inductors. Cross-over: 80Hz – 220 Hz-3200Hz.

FREQUENCY RESPONSE:

25 Hz – 30.000 Hz, Stealth reflex included.

SENSITIVITY:

90 db SPL (2.83V/1 m).

NOMINAL IMPEDENCE:

4 ohm.

POWER HANDLING:

30W – 300W, without clipping.

DIMENSIONS:

1160 x 405 x 635 mm (HxWxD).

WEIGHT:

111 Kg per pair – net weight / 145 Kg per pair - shipping weight.

Connections

There are two couple set of binding posts on Amati futura's back side panel: one set is relative to the positive polarity, the other to the negative one. Those connections accept bare wires, spade plugs and banana plugs as well.

From top to bottom the two sets shows a couple of positive and negative connectors for the mid-high frequencies and a couple of positive and negative connectors for the low frequencies.

As soon as Amati futura is removed from its package the mentioned couples of binding posts will be found bridged together thanks to some metal connection bridges. The whole complete set for a pair of Amati futura is:

- Four bridges finished with a spade plug on both sides.

The alternative use of those bridges allows connecting Amati futura in all the possible configurations, perfectly matching your favourite speaker's wire terminals at the same time.

Here follows the various connection topology description path. Following it means increasing, step by step, the quality of sound

reproduction in terms of definition, control and detail.

Standard connection

The standard connection can be available with one stereo power amplifier or with a pair of mono power amplifier and with one set of speaker's cables. The connection can be done only after having bridged the binding posts according to the diagram shown in **figure 1**.

Bi-wiring

The bi-wiring connection can be available with one stereo power amplifier or with a pair of mono power amplifier and with two sets of speaker's cables. Please go on with this connection only after having removed the connection bridges according to the diagram shown in **figure 2**.

Bi-amping

The bi-amping connection can be available with a pair stereo power amplifier or with four mono power amplifier (We highly recommend to use the same brand and model amplifier for the whole system) and with two sets of speaker's cables. Again this connection can be done only after having removed the bridges according to the diagram shown in **figure 3**.

We wish you the best possible listening experience, reminding you that you can contact us any time.

Sonus faber