

# *Ars-Sonum* *Filarmonia*

## STEREO INTEGRATED TUBE AMPLIFIER SM VERSION



### Specification summary:

Maximum output power: 2 x 28 Watts R.M.S.

Sensitivity for maximum power: 300 mV.

Total harmonic distortion at rated output power: 0,4% (20W RMS)

Frequency response: 5Hz to 60KHz (-3 dB)

Signal to noise ratio: > 90 dB

3 line level inputs. 1 recording output.

Completely hand-made built.

Custom made components of audiophile grade.

Polished stainless steel chassis.

Hand wound output and power transformers custom-made to Ars-Sonum specifications.

Special series tubes carefully selected and pair-matched.

**Ars-Sonum products are exclusively sold/distributed in the USA by Signature Sound Hi-End Audio.**

*To place or order or to ask a question, please contact:*

*Signature Sound, 8409B Shallowcreek Rd, Liverpool, NY 13090 USA*

[www.sigsound.com](http://www.sigsound.com) 315-622-4137 hifi@sigsound.com

# GENERAL TECHNICAL OVERVIEW

The Filarmonia is a stereo integrated amplifier with a maximum output power of 30 watts RMS per channel at 8 ohms. Its output section mounts a pair of E34L pentodes in Push-Pull configuration per channel. The E34L is a special upgraded version of the EL34 / 6CA 7 tube. The drive and phase inversion stage uses a 5814-A double triode, while the input section is driven by the E88CC double triode.

One of its most remarkable characteristics is the adoption of an output stage which does not use the classical, and more conventional Ultralinear configuration, but a special circuit designed by Ars-Sonum, consisting in a screen-grid regulated pentode (push-pull ClassA operation). Biasing is automatically regulated. These features allow an extremely accurate and stable working point of the final path. This configuration allows using a very low global negative feedback rate of 6dB, keeping low distortion levels and adding interesting benefits, such as more phase coherence, great frequency response stability along the audio band, and lower TIM Distortion levels. The global negative feedback is complemented by the slight use of lower local negative feedback rates at the previous stages.

The output stage's bias circuit uses high precision components, matched for tolerances below 1%. The output transformers and especially the cathode resistors, are matched within a 0.5% tolerance. The E34L JJ tubes are object of a special selection process, to obtain matched quartets within a 2% of their performance characteristics. This effort assures that the stability and performance of the amplifier is kept uniform and unaltered along the aging process of the tubes. It also allows the tube replacement without any further adjustment. Moreover and fundamentally, it makes for a very precise working point into class A for most of the power delivery of the amplifier. Only during short (high power) musical transient peaks does the amplifier go into Class B operation and quickly returns to its optimal operating point, for a better musical quality.

The output transformers (designed by Ars-Sonum and exclusively manufactured for us) are conceived to reach a especially wide frequency response, even without the use of global negative feedback. Their main attributes are a high primary inductance (>50Hy), an extraordinarily low loss inductance (<2mHy) and a high precision balance (<1%) between primary windings. All this is thanks to a complex combined configuration of multiple windings and a careful craftsmanship.

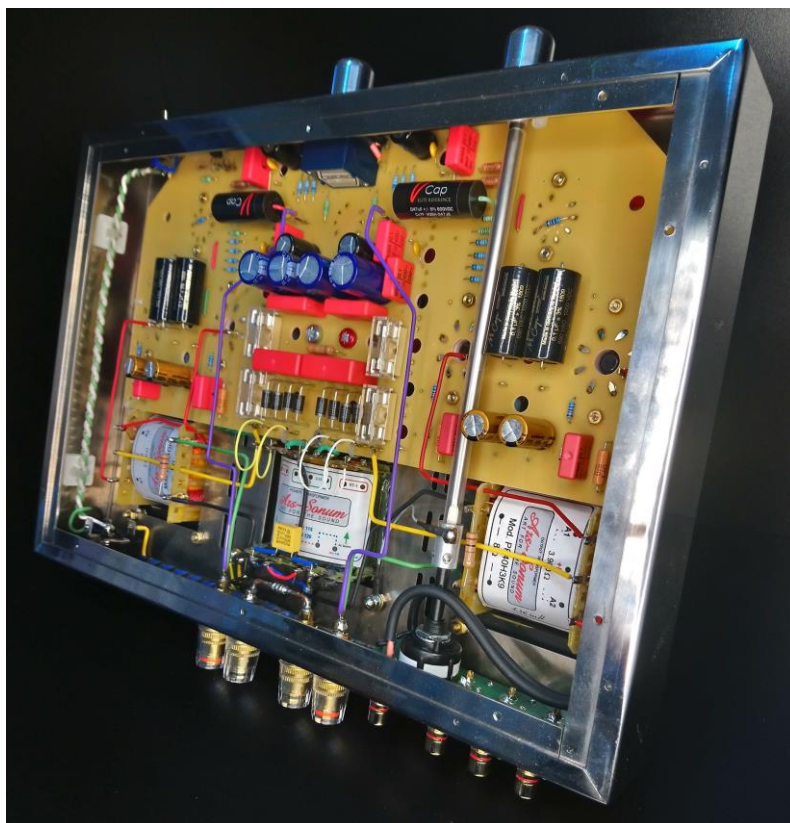
The Filarmonia SM features a improved power supply design. Its complex design includes seven independent sections, six of them stabilized independently for each channel and each stage, with the aim placed in achieving the lowest interference among channels (crosstalk) and among stages (intermodulation). The improved power supply required the design of a new power transformer with electrostatic screen gives a good common mode noise rejection. It makes the use of external power filters/conditioners to clean the electrical supply from noise less critical, and also provides extra safety protection to the user. The passive components in this section have been specially selected in an unusual way, choosing filtering and decoupling capacitors of professional quality using special series parts (Aerovox / BHC, Elna and Panasonic electrolytic, and polypropylene dielectric capacitors from Wima). The power resistors are selected at 1% tolerance and oversized for reliable performance.

The driver and phase inversion stage uses tubes from professional series (JAN 5814A Philips) and low-noise, high-precision components, such as metal film resistors selected and pair-matched at 0.5% and top audiophile quality path capacitors (specially treated Mundorf Supreme Silver/Gold/Oil and V-Cap Copper Teflon parts).

The input stage is based on a exceptionally low noise tube (JJ Gold Pin E88CC – specially tested and graded by Ars Sonum) and the associated components have been carefully selected to achieve the highest signal to noise ratio. They include precision metal film resistors from Vishay / Philips and an ALPS Blue Velvet volume potentiometer.

The internal wiring and the (new) circuit board layout have received special attention, which required a great deal of the time in the design and development of the amplifier in order to provide the best signal-to-noise ratio, and the lowest interference & parasitic capacitances between components and stages. The completely new circuit board design incorporates multiple circuit refinements, the improved power supply design, optimized signal path layout, and better ventilation.

The chassis is made of die cast stainless steel, folded and soldered with high precision and polished. High quality RCA input jacks are directly mounted to the chassis. Cardas Patented Binding Posts are included on all USA amplifiers. The control buttons are exclusively hand-crafted to us, made from a piece of solid aluminum lathe turned and hand polished.



**Filarmonia SM inside view**



Filarmonia Goldfront plate



Filarmonia Silver front plate



Filarmonia Black front plate

**Filarmonia front plates**

***Ars-Sonum***

**ART FOR THE SOUND**  
*Handcrafted in Madrid, Spain*

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