ES Lab

Electrostatic Audio Products

New Product

EHT-7

ELECTROSTATIC HEADPHONE ENERGIZER

ES Lab

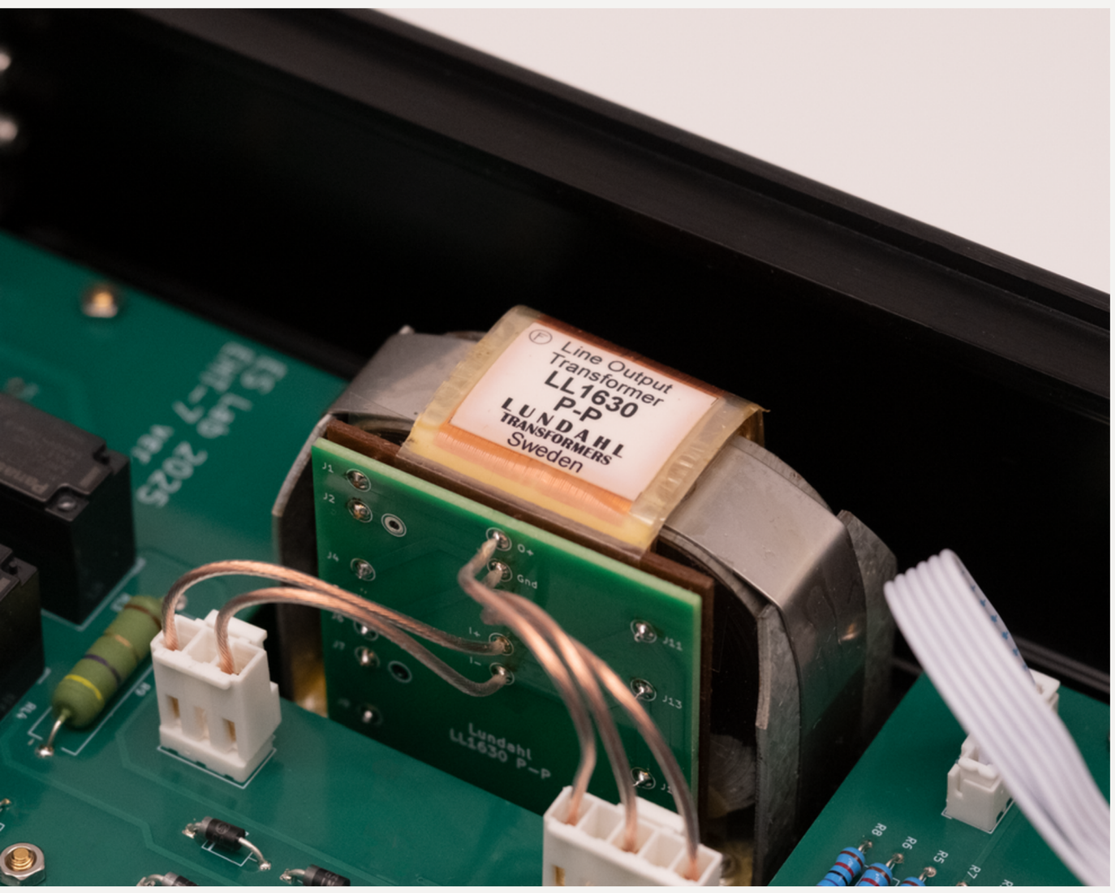
EHT-7

The EHT-7 unleashes the full potential of your electrostatic headphones while integrating with your existing speaker amplifier or headphone amplifier. Its exceptional driving capabilities deliver a natural and realistic soundstage, and preserve the ultimate transparency and detail retrieval that electrostatic headphones are famed for.

Unlike conventional transformer setups, the EHT-7 incorporates innovative design considerations and technologies, which ensures a reliable and safe handling of the high voltage needed to power electrostatic headphones. This amplifier is crafted for music enthusiasts seeking the ultimate performance from electrostatic headphones.

Transformer

The step-up transformers have a fundamental role in shaping the sound of the EHT-7. The audio-grade transformers used in the EHT-7 are crafted in Japan, with each piece assembled by technicians to ensure the highest quality. The cores are made from grain-oriented silicon-iron steel from Nippon Steel Corporation. The effort put into the manufacturing process resulted in the excellent sonic performance of the transformers, with an exceptional high-frequency response.



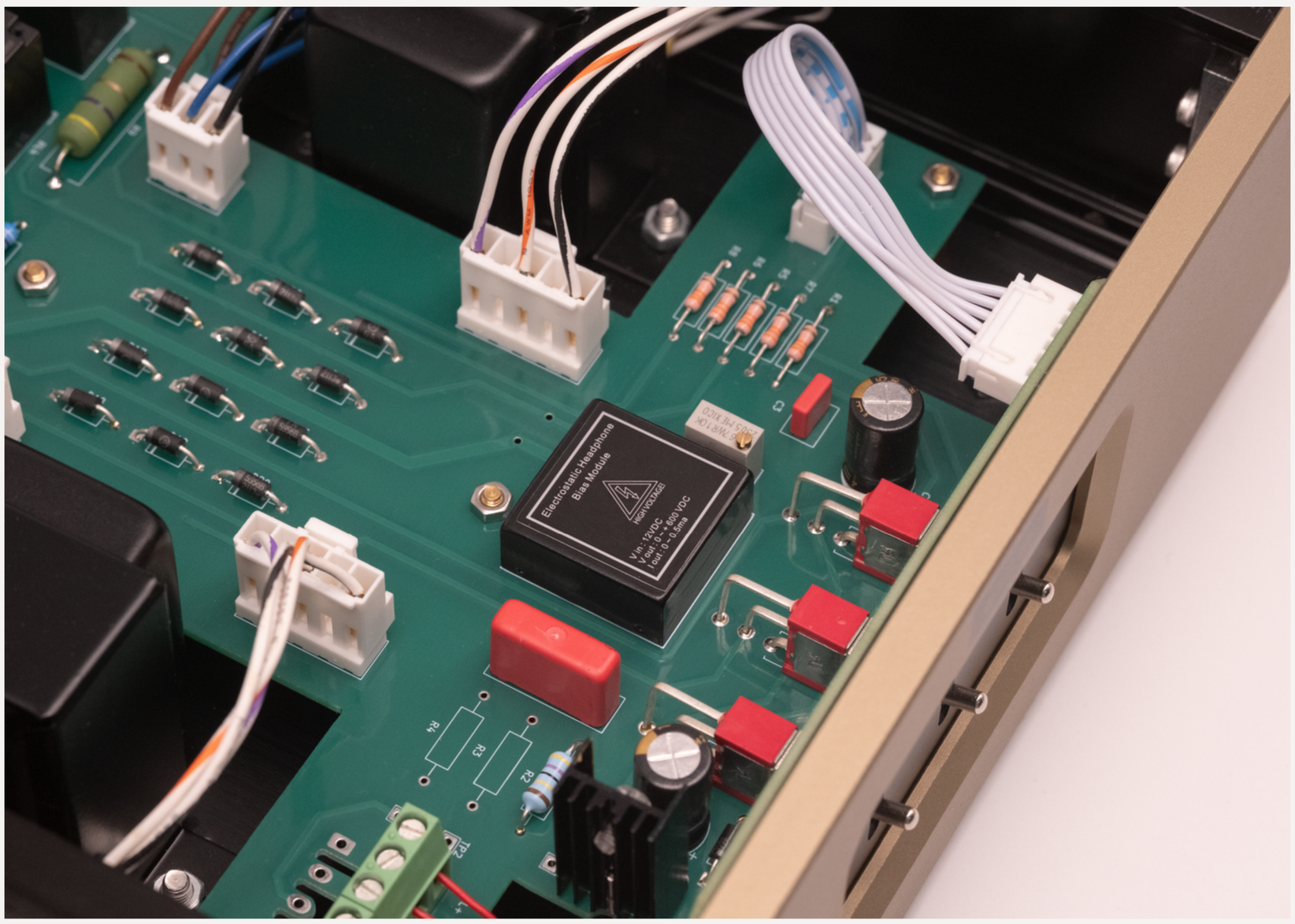
The EHT-7 also offers the option of using Lundahl LL1630 transformers from Sweden, famed for their superior sound quality and measurement results by the community. It features a special audio C-core of Lundahl's production. Furthermore, the transformer is highly sectioned, and wound with a special low capacitance winding technique, resulting in an excellent high-frequency performance.

** Input requirements, function and specification of the Lundahl transformer version differs from the standard version. (See last 2 pages)

Bias Supply

The EHT-7 utilizes multiple stages of power processing to deliver a clean bias supply for the electrostatic headphone for optimal performance. This approach stands in contrast to the outdated voltage multiplier design, which is known for its noise generation but commonly used in conventional electrostatic energizers.

The EHT-7 draws power from an external switching power supply, feeding it into an ultra-low-noise LT3045 regulator circuit. The regulated voltage is then sent to a low-ripple, high-voltage DC-DC converter module, which generates the 580V bias required for the Pro Bias electrostatic headphone.



Inputs

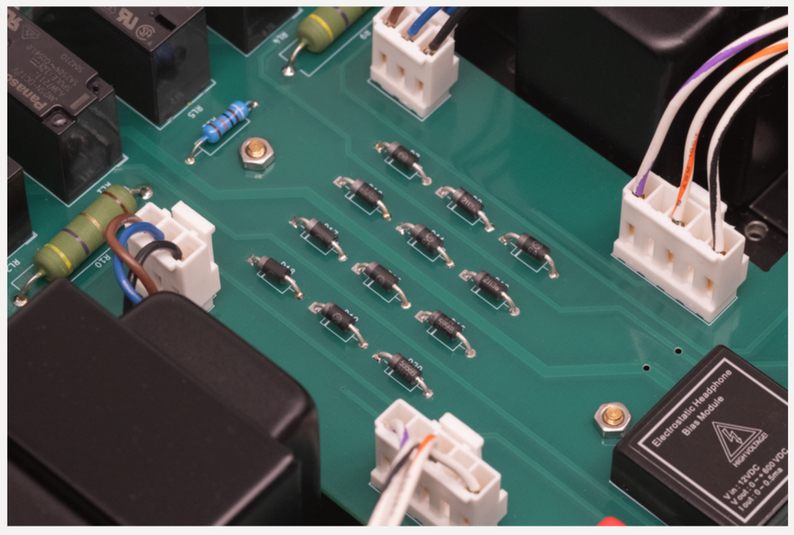
The EHT-7 offers adjustable impedance (8 Ω or 16 Ω) for the primary windings of the transformers, ensuring optimal compatibility with your source amplifier. It also features two input options: speaker termination for connection to your speaker amplifier and XLR balanced input for connection to your headphone amplifier.

The signal switching in the input section is controlled by a set of 5 sealed silver-alloy contact relays, designed for a long lifespan and high current capacity

Safety Features

Safety is never compromised in our products, and the EHT-7 is no exception. Multiple measures are in place to protect the headphone, source amplifier, and the EHT-7 itself.

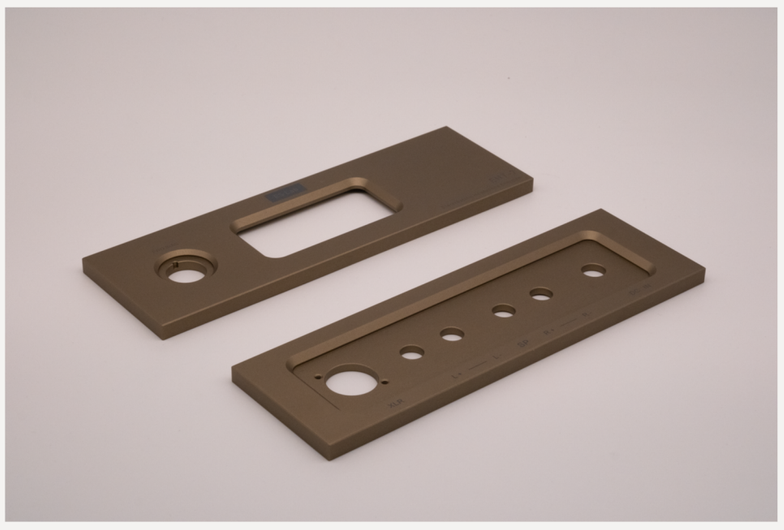
- A clipping circuit formed by a network of zener diodes prevents signals exceeding 1150V peak (stator-to-stator) from reaching the headphone.



- A pair of matched load resistors from Jantzen Audio are serially connected to the transformers, safeguarding against excessive DC current or impedance fluctuations that could damage the transformers.

- A Vishay 4.7M high-voltage ballast resistor limits current before the bias reaches the headphone.

- Built-in short-circuit protection is integrated into both the low-voltage regulator and the high-voltage DC-DC converter.

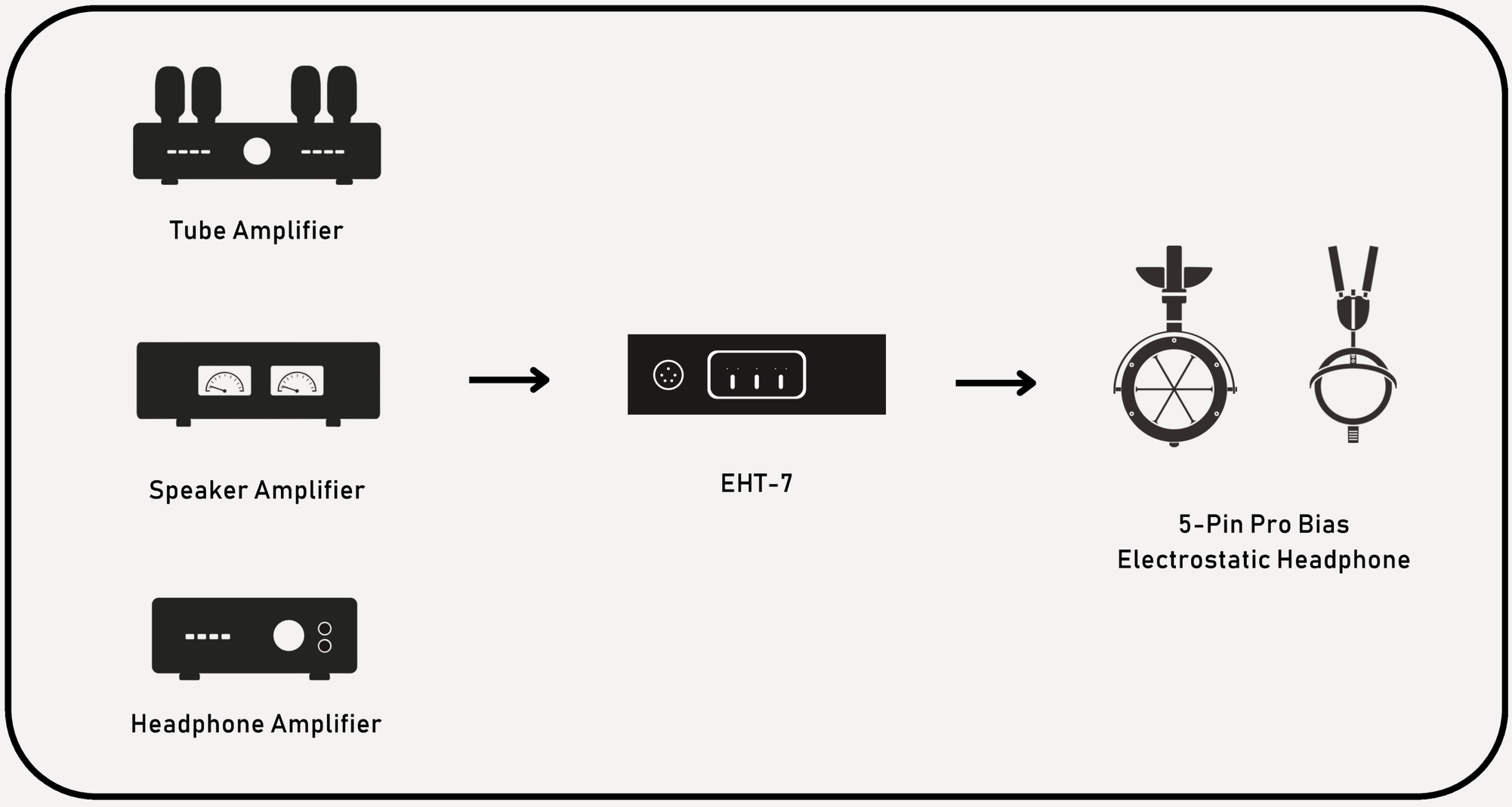


- The input circuitry is disabled when the EHT-7 is powered off.

Customizations and Warranty

Each EHT-7 unit enjoys a 2 year warranty. Upon ordering the user can also customize the choice of transformers, output bias, connections and more.

Connecting your Energizer



On the EHT-7 with the Lundahl Transformers :

- The step-up ratio of the Lundahl transformers are lower and thus the energizer is harder to drive than the JP transformer version, Only pairing with speaker amplifiers is recommended for sufficient gain.
- Impedance selection not available in this version.

Specifications

Output Connection Type: Stax 5-pin Pro Bias
Output Voltage Protection Threshold: 1150V peak (stator-to-stator)
Power Input: 15VDC / 0.2A
Power Consumption: 3W
Dimensions: 215mm (Length) X 235mm (Width) X 80 (Height)
Weight: 3.1 KG
Warranty period: 2 years

JP Transformer

Gain (8 Ω): 31.1 dB
Gain (16 Ω): 27.8 dB
Frequency Response: 10 Hz - 55 kHz
(8Ω / -3dB, 50V rms,120pf load, Source: Topping LA90D)

Recommended Input Power Requirements :
Speaker Amplifier : 5W - 100W/8Ω
Headphone Amplifier : 10V / 16Ω or more

Users who use amplifiers rated below the recommended value may experience insufficient playback volume.

Lundahl LL1630

Gain : 23.0 dB
Frequency Response: 10 Hz - 65 kHz
(-3dB, 50V rms, 120pf load, Source: Topping LA90D)

Recommended Input Power Requirements :
Speaker Amplifier : 10W - 100W/8Ω

Specifications are subject to change without notice.

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Product Designed and Made in Hong Kong
www.eslabhk.com
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