The Open-Source Directly-Heated Triode Electrostatic Headphone Amplifier (OSDEHA)

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Warning: This DIY project involves high voltage. Individuals utilizing the information provided must possess expert knowledge, adhere to stringent safety precautions, and accept all risks associated with electrical work. The authors and contributors of this project expressly disclaim any liability for injuries or damages arising from the use or misuse of this information.

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1. OVERVIEW

Electrostatic headphones operate on audio signals characterized by high voltage and low current. This is the domain of vacuum tubes, making them the most suitable drivers for e-stats. While there exist a number of tube amplifiers for e-stat headphones, many of these designs do not utilize directly-heated triodes (DHTs), which are known for their enhanced linearity and renowned for their exquisite sound quality.

This documentation describes the OSDEHA, which implements the following design goals:

- Use DHT tubes for output stage.
- The audio output is taken directly from the anodes of the DHT output tubes. No transformer or capacitors to transfer the power to the headphones.
- The amplifier input takes balanced input at signal levels of modern audio sources (mostly DACs these days).
- Focus on quality of audio reproduction and electronic design, not on low cost.
- The amplifier should be reasonably compact.

2. LICENSE INFORMATION

As per CERN-OHL-S v2 section 4, should You produce hardware based on this source, You must where practicable maintain the Source Location visible on the external case of the OSDEHA or other products you make using this source.