

# Dual all in one OPA impedance Converter and Bias Generator

## Dual OPA1642 Microphone Interface Board

This updated dual-channel OPA board now includes an integrated hex inverter bias generator, simplifying condenser microphone builds while reducing external component count. The circuit maintains exceptionally low THD and noise performance, contributing approximately **1 dB of equivalent self-noise** when paired with a large-diaphragm condenser (LDC) capsule, while delivering **well over 100 dB of dynamic range**.

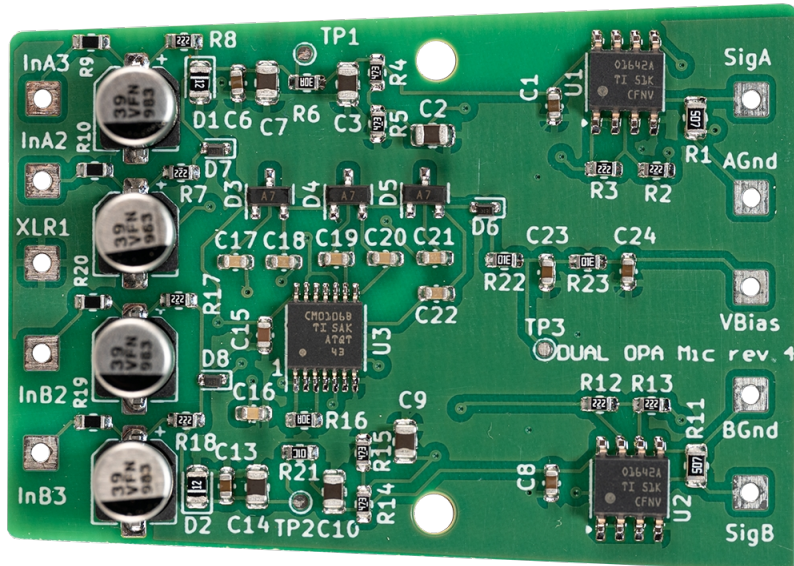
The board provides direct access to both bias voltage and analog ground, enabling support for **true dual-diaphragm condenser capsules** or **electret capsules without an onboard FET**. This makes it fully compatible with Tabitha-style builds. In most cases, a complete microphone can be assembled with just a few soldered connections.

The design pairs particularly well with industry-standard capsules such as:

- K67-style (e.g., TSC-2)
- CK12-style (e.g., JLI CK12)

The frequency response is exceptionally flat and extends well beyond the audible range, ensuring the circuit adds virtually no coloration—**what you hear is the capsule**.

Powered by the OPA1642, the output stage can swing very close to its supply rails. This allows the circuit to handle large signal levels cleanly, providing **greater headroom than many microphone preamps**.



# Connection Diagrams

