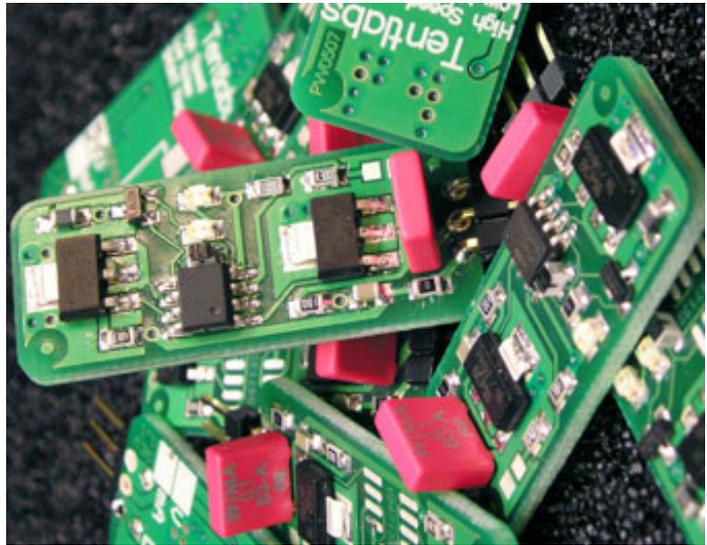


Shunt Regulator

tentlabs.com/Components/Shuntcomp/index.html

TentLabs Shunt Regulators

Tentlabs shunt regulators are designed to upgrade power supplies of both analog and digital circuits, mostly found in CD/DVD players, DACs and similar audio equipment. Substituting, or adding these regulators enhances the sound quality in terms of transparency and resolution, at reasonable price. Connections in general are easily made. This type of upgrade requires little knowledge of electronics hence is accessible for every enthusiastic audiophile DIY.



Purpose

Tentregs are designed to be applied as an upgrade in analog and digital playback equipment like (SA)CD players, DACs and alike. The shunts drop in instead of commonly used industrial types of regulators. Having much lower noise, true wide bandwidth and linear output impedance, they'll bring improvement to sound in terms of:

- Higher resolution
- Better transparency
- Clean low ends
- Increased dynamics

Traditionally used voltage regulators never have been designed for audio applications. As an example, the very popular 7805 initially was designed as a voltage regulator for digital logic and low micro controllers - who cared about bandwidth or output noise. Derivatives like 7815 and 7915 are widely used to supply the analogue output stage of CD players. About time for an upgrade!

Technology

The shunts consist of an active, wide band, current source to isolate the input from the output. The output is regulated by an active shunt regulator with both low output noise and wide (typically > 200kHz) bandwidth. For RF frequencies, a Wima capacitor is integrated on the board, which in total measures 15*35 mm.

[application note](#) here for more information.

Available Versions

- -15V
- -5V
- +3.3V
- +5V
- +15V

Specifications

Electrical

- Supply input: typically 2 V above output voltage, maximal 6 V above output to minimise heat.
- Higher input voltage are allowed when a series resistor is place at the back of the regulator, see application note.
- Output voltage within +/- 5% of rating
- Bandwidth (all versions) > 250 kHz

Output noise • 3.3 versions: < 15 nV/SqrHz

- 5V versions: < 11 nV/SqrHz
- 15V versions: < 32 nV/SqrHz

Output impedance (over total bandwidth)

- 3.3 and 5V versions: <10m-ohm
- 15V versions: <40m-ohm

Output current

- 3.3 versions: 100mA
- 5V versions: 80 mA
- 15V versions: 30 mA

All versions are short circuit proof

Mechanical

- Size: 15*35*8 mm³
- Weight: 5 gram
- Mounting: 3 pin header
- Header pitch: 2.54 mm

Warrantee

All regs come fully assembled and tested with a 5-year full warrantee, assumed they are mounted and used according instructions.

