

TWRPS-pp Low noise push-pull regulator



Low noise linear push-pull regulator designed to provide power supply to the oscillators and the frequency doublers.

Features:

Input: 18 to 20 VAC (J1) or 26 to 28 VDC (J2)

Output voltage: 10 to 16 Vdc

Output current: up to 500 mA

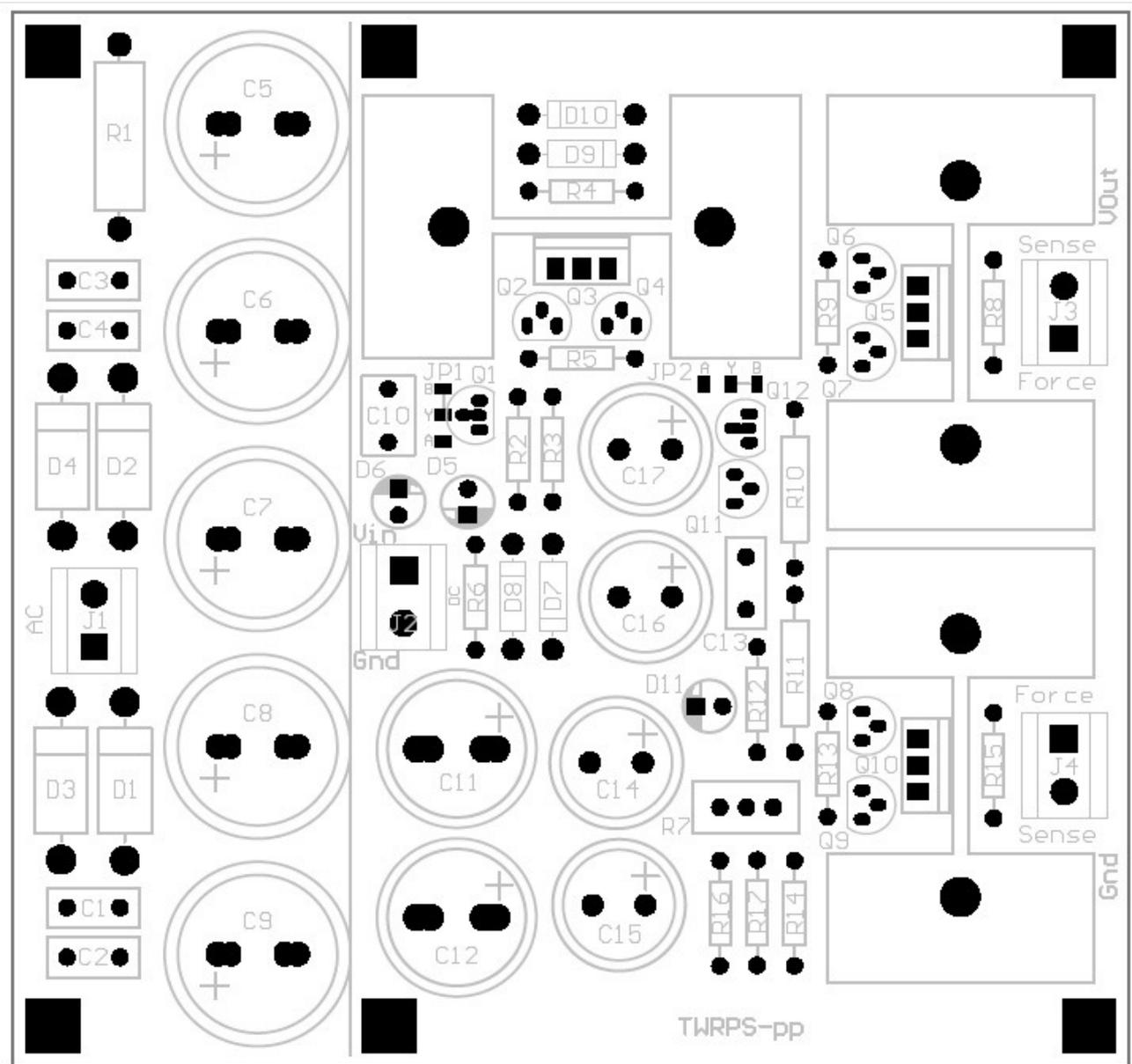
Power supply for: 2 x oscillators + 4 x frequency doublers

Board size: 107mm x 102mm

Board options: bare PCB only

Note: all parts are through hole

PCB layout



Connectors

J1: 18-20 VAC input. Suitable transformer is the Bel Signal DP-241-6-20 Mouser part 530-DP-241-6-20

J2: 26-28 VDC unregulated power supply when rectifiers and filter capacitors are not installed (left side of the PCB). The upper pin is +V, the lower pin is ground. Using this connector the circuit is not protected against power supply polarity inversion.

J3: 10 to 16 VDC regulated output. The regulator provides Kelvin connection, the upper pin is Sense terminal, the lower pin is Force terminal.

J4: output ground. The regulator provides Kelvin connection, the upper pin is Force terminal, the lower pin is Sense terminal.

The regulator can run either with AC than DC input. To use AC input install J1 and connect 18-20 VAC 30VA transformer. To use DC input don't install rectifier and filtering parts, install J2 and connect 26-28 VDC 500 mA unregulated power supply.

If the output Kelvin connection is not used install a jumper between the two terminals of J3 and J4.

Use R7 to adjust the output voltage.

There is 1 available option for this board:

- bare PCB (all parts are through hole)

The BOM is available at post #160 on the diyaudio.com thread: [The Well Regulated Power Supply](#).

Notes on bare board

The bare board option needs all the parts to be soldered (through hole parts only).

There are a few things to pay the maximum attention:

- be careful installing connectors and polarized parts with the right orientation, the component orientation is clearly visible on the PCB overlay
- for positive regulator install a wire jumper between the terminals Y and B of JP1 and JP2 as shown in the PCB layout.
- in order to use the DC power supply input (J2) don't install the following parts: D1, D2, D3, D4, C1, C2, C3, C4, C5, C6, C7, C8, C9, R1, J1.