

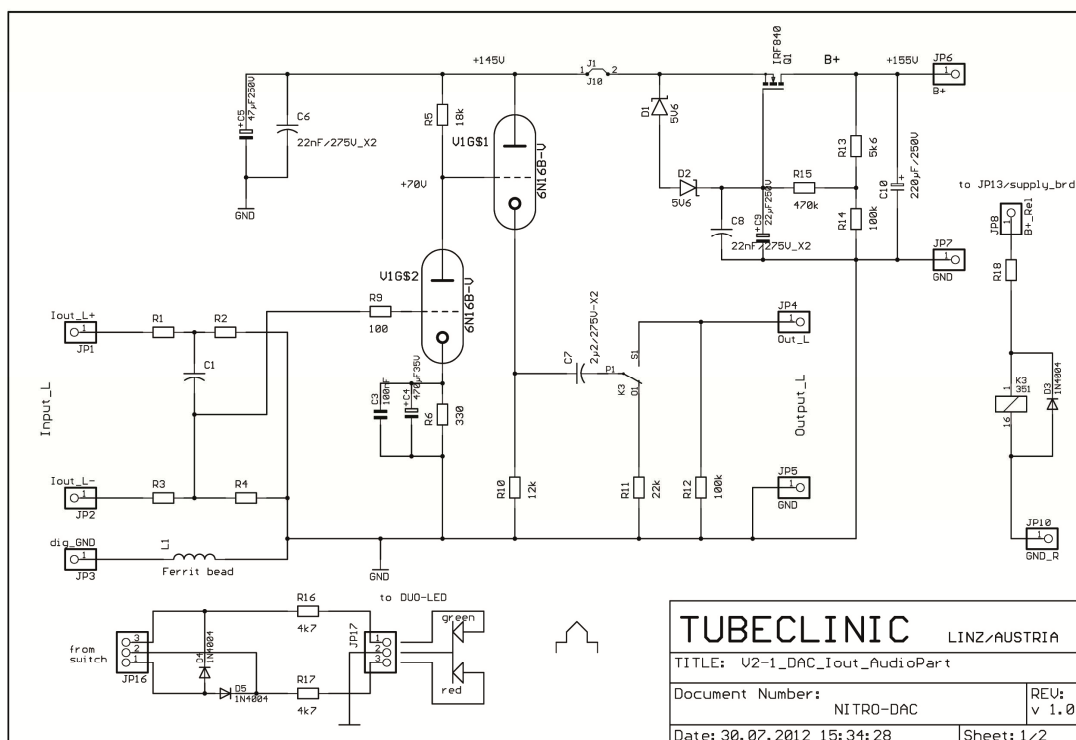
NITRO

The AudioPart PCB for Iout DAC-chips

By Barbara E. Gerhold "TUBECLINIC"

This the tonal heart of the DAC ...

Have a look at the schematic page 1 (left channel):



Many of you readers now will say, "this is not very different from your well known FETishizator circuit!"

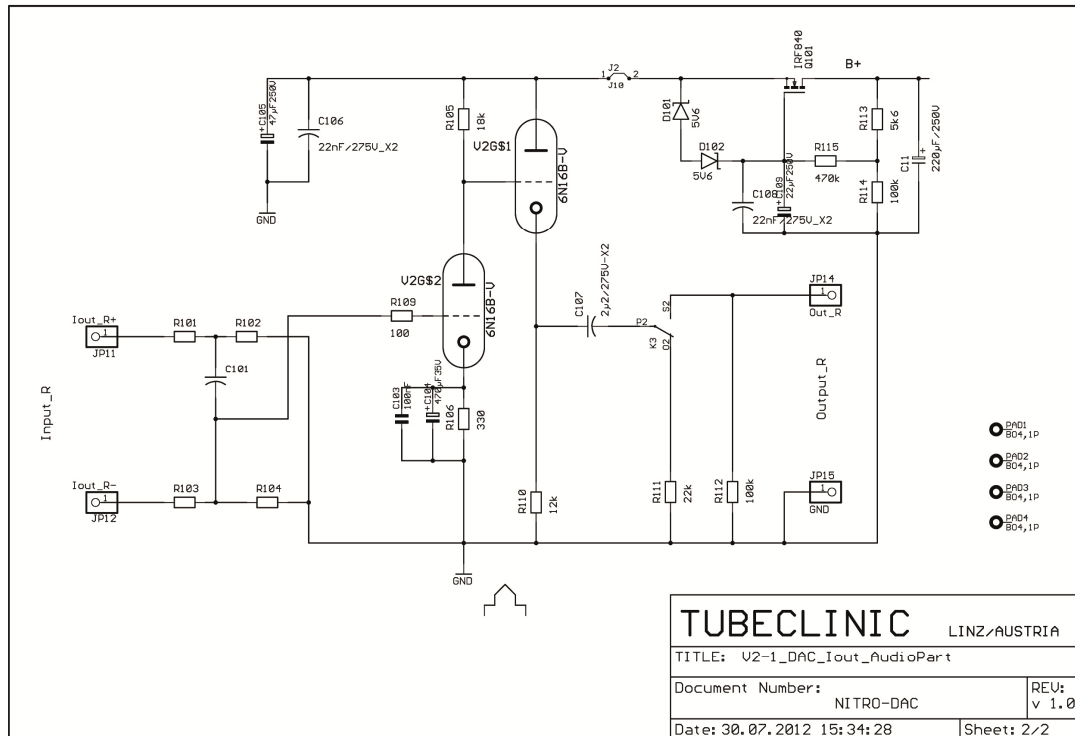
Well – you are right! Why try to change a winning team? Although I used Russian subminiature tubes for this solution, it is not far from the former concept.

- At the input you see the already described DAB circuitry (pls. see the separate article).

- Following next, there is the first triode amplification stage, followed by a hard-coupled cathode follower to match the output impedance at a very low value. The first triode proved to sound best, when coupled directly (DC, w/o a cap) to the DAB. The input signal is upset on app. 250mV of DC.

- Something new is, that I put a relay to the Audio-output to eliminate the larger click of the charging output cap during turn-on. The switching function of relay K3 is mentioned in the article about the supply unit.

- A duo-LED may also be used to indicate the switching steps at the front panel.
... and the schematic page 2 (right channel) – somewhat similar:



This time I used two power MOSFETS to decouple both tube-supplies and keep them free of noise. Again, I used a gyrator circuit. Q1 and Q101 form a choke “built of sand”. This will keep the impedance of the supply chain to very low values while smoothing out the last ripple. The used MOSFET was chosen for its low R_{DS} and because it will withstand spikes from the supply line up to 500V. The voltage drop over the MOSFET will be app. 10VDC.

Heater wires have to be connected directly to their adjacent tubes pads at the PCB. Be sure to twist them thoroughly using a drill machine. You may download the copper picture of the PCB at my website as a PDF. This PCB is a universal version for Iout- as well as Uout-DAC-chips. Some parts have to be omitted with the Iout version and have to be substituted by jumpers. Please refer to and compare schematic and copper picture.

L1 is a small ferrite bead to decouple RF-noise from analog GND. There is only a wire through the hole needed.

All resistors are metal film 0,5W, $\pm 1\%$; caps are MKP. Size of the PCB is 100 x 160 mm, single-sided (Euro-card format).

The values in the schematic shown above (section of the DAB) are given for the PCM1798. If you use another DAC-chip, please refer to the article about DAB. There are the values for some other chips in a glossary.

A version for voltage output DAC-chips is also available; please have a look at my website!

Have fun with this excellent sounding device. If you have further questions or advices on improvements that you feel should be published here, please contact me via eMail.