ODA hanges 4-11-2013

- Moved to the larger B4-080 box and more expensive ($14 vs. $2.50) 80x160mm PC board, primarily to allow a front panel 1/4 inch output jack and rear RCA input jacks to be mounted on the PC board. After some more thought these two seem like requirements to be on the PCB for a desktop headphone amplifier, rather than just externally mountable with the smaller PC board. The B4 box is 2.5 inches wider and 1 inch taller (same depth) as NwAvGuy's O2 headphone amplifier.
- Added the ¼" Neutrik output jack on the front panel and RCA input jacks on the back panel back in, thanks to the larger case and PCB. The 3.5mm and ¼" output jacks can be used at the same time (wired in parallel).
- Put more physical space around the "noisiest" part of the power supply, the AC entry and first set of filter caps, thanks to the larger case and PCB
- Went back to using both the LM317 and LM337 as pre-regulators for the LT1963A and LT3015, thanks to the larger case and PCB
- Power supply voltage switch on the PCB back panel. +/-17Vdc, +/-12Vdc, +/-7Vdc. These can be set to anything with proper resistor choices since the voltage regulators are adjustable. The chips are good from +/-4.5V to +/-18V absolute min and max.
- Back to 3 NJM4556AL output chips on each channel for total current capability to the headphone of about 375mA per channel. Power supply beefed up again to match.
- DC servos on both channels now, thanks to the larger case and PCB. One OPA188 on each channel, 25uV = 0.025mV maximum DC offset vs. around 3mA in the O2.
- Provision for output damping factor 6 position rotary switch. The PCB has a place for an output series resistor on each channel. Those can be jumpered for the basis 0.25R, or a resistor put in each, or cabled to the 6 position external switch for 6 settings such as: 0.25R, 10R, 20R, 80R, 120R, etc.
- Lots of extra height in the B4-040 case for the bass-boost external DPST switch and other add-ons. I've also made sure a PC board can still be slid into the top slot of the box – all the components clear, including the filter capacitors. So an "accessory" board could be created with things like a full Baxendall tone control, cross feed, etc and cabled over to the ODA PC board. I've kept the same type of input and output PC board holes that NwAvGuy has in the O2 for input and output. I've also included PC board holes for power take off of ground, V+ and V- to cable over to an accessory board.
- There is also a longer B4-160 case available. Same as before with the 80x100 PCB, two of these PCBs can be used end to end in the case bottom slot to hold an ODAC. The power supply section isn't populated with parts on the front PCB, while only the power supply section is populated on the back PCB. The power supply rail holes on the board are used to cable over twisted pair power and ground from the back board to the front board. Then the unused front 2/3 of the back board can be used to mount an ODAC.