

Well these are the Peter Daniel Audiosector bridged mono LM4780 gainclones I finally completed. Thanks to everyone who contributed to this and various other forums, from which I got a lot of help and advice. In return, here's a few things I experienced that might be helpful to others.

I used 2x25V 400VA Plitron transformers. The enclosures are from LMB Heeger (<http://www.lmbheeger.com/>) , supplied by Digikey. They allow me to access everything easily because they totally come apart. The transformer and aluminum heatsink weigh almost 7 kg so I added a nut and bolt halfway down the base to brace the base to the side panels. The heatsink is from Online Metals (<http://www.onlinemetals.com/>) who will cut to size for a modest price. I blew up my first chips because I had wrongly connected the transformer to the rectifier board.

I had lots of hum when I started which seemed to diminish when I (a) ensured good contact between the transformer mounting bolt and the case by scraping and sanding away the paint - I wondered if the transformer induced some voltage in the bolt and so the case; (b) made sure the transformer mounting bolt was really tight; (c) made sure the safety ground post, to which the signal ground is connected, was also tight.

I had a hard time deciding how to attach the chip to the heatsink. It's electrically isolated from the case (there's a bit of plastic from a folder/paper protector that it sits on and I used nylon screws to mount it to the case; I also used nylon screws and the insulation Peter Daniel supplied with the kit to mount the chip to the aluminum block). When I decided on this I thought I was going to connect the chip directly to the heatsink, but Peter D supplied the insulating material with the second kit I bought. I get a few millivolts when I check the potential difference between the aluminum heatsink and the ground when the amps are powered up so it was probably a good idea to isolate it. I got through four taps threading the holes in the aluminum, two of which are still in it. I think if I were to do it again I'd get a small cheapish drill press rather than use a hand drill. There are 28 holes in each case and heatsink..

One thing I found useful was the Variac knockoff I built using a Powerstat variable transformer (rheostat). It allows me to increase the voltage from zero to 120 and will deliver a couple of amps. It didn't prevent me from the exploding chip, but at least it did it at a low voltage (although perhaps it would have been more spectacular at 120V). I also used a version of the lightbulb tester - the dull orange glow is cool.

At the moment I'm using a CD player through a passive pre-amp/attenuator and I can only hear residual/background hiss from the speakers - no hum. There's no hum with the ipod either. I'll eventually try it with an active amplifier. The heatsinks get warm but touchable by the end of Berlioz's *Symphonie Fantastique* it moderate/loudish volume. The speakers at present are a pair of Rega Cambers but I'll connect the real speakers - a pair of Cambridge TLS 2s which are almost as old as I am - soon.

On the whole I'm satisfied with the amps. It's ironic how all the time and money are spent on things that are mechanical rather than electrical. I think if I were to do it again the only significant change I'd make would be to use purple LEDs. The amps seem to take 20 minutes or so to come good (they sound a bit hollow and flat at first) every time I use them, but the sound is clear with good definition and very good detail, and neither bass, midrange nor treble predominate.

What's next? Well, I have a couple of Marchand amps to finish off (i.e. complete) and then for the real project - a pair of Aleph 2s.