HD83 Extreme Makeover

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A WAD HD83 headphone amplifier gets a facelift and becomes a HeadphoneII!

I have always been delighted with the sound of my HD83, especially after fitting a variety of upgrades including paper-in-oil capacitors and fast, soft recovery rectifiers. However, the design of the case, while matching my old WAD K5881 amplifier, looked rather out of place with the PreII and 300BPSE equipment that I now have. I was therefore delighted to learn of the new HeadphoneII kit that WAD have released recently.

Figure 1. The Kit of Parts for the Upgrade

One option would be to build a new HeadphoneII from scratch, but that seems rather a waste when I already have all the electronics and all that is required is to give the HD83 a facelift to match the new WAD high-end look.

Discussions with Mark at WAD resulted in a kit of upgrade parts arriving *chez Roberts*! Of course, most of the existing parts can be transferred to the new case, but there are a few exceptions. A new headphone socket is required to match the front panel, a new Alps Blue with a full-length shaft to support the chrome knob and an IEC socket with integral fuse and power switch. I was also pleased to see that a blue LED power indicator is supplied with the kit. I had previously fitted one to my HD83 as a power indicator had not formed part of the original design.

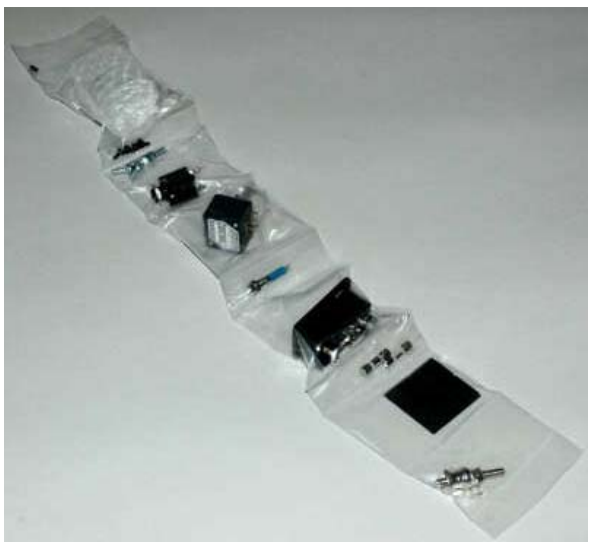

Figure 2. The "Snake" of Components!

All the parts were supplied encapsulated in a heat-sealed polythene "snake" instead of the re-closable plastic bags that used to be used. This is a real plus since every little item has its own compartment and can be left safely in the strip until required. Things like the knob grub screw have a habit of going AWOL when your back is turned!

Preparing for the Facelift

The first job was to remove the electronics from the HD83. Unclip the wires from the self-adhesive aluminium clips that hold the wires from the transformers. Unsolder the wires from the phono sockets at the rear of the HD83. Also unsolder the mains earth lead from the PCB and the transformer mains input from the front panel power switch. If you have fitted an LED power indictor, unsolder that from the heater tabs on the PCB as well.

I recommend leaving the wires connected to the headphone socket and the Alps Blue volume potentiometer as this will help identify the correct connections for the new components later. So you now need to remove the knob and unscrew the old Alps Blue and headphone socket from the HD83 case.

Next, unscrew the PCB by removing the four screws from the PCB side only. Do not remove the PCB stand-off posts by undoing the screws from the underside of the case as these are not required for the HeadphoneII, which has stand-offs already fitted to the case. Finally, unscrew all the transformers, remembering first to clean off any glue that you may have previously applied to the threads of the transformer nuts to stop them working loose. Remove the electronics from the HD83.

Figure 3. The HD83 before the Makeover

Figure 4. The Electronics Ready to Install

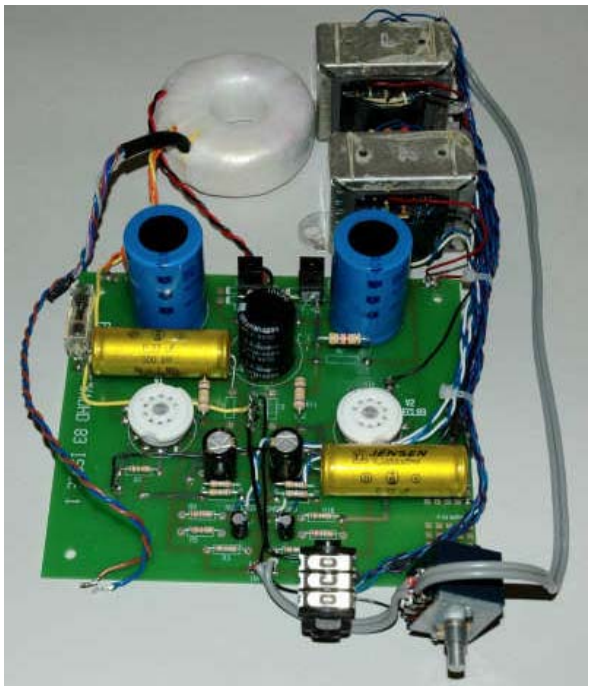

Figure 5. The Electronics Removed from the HD83

Re-installing the Electronics

Remove the phono sockets from the HD83 case and re-fit them to the HeadphoneII. A point to note here is that WAD has positioned the right channel sockets on the top and the left channel on the bottom (contrary to the HD83). So make sure the appropriately coloured phono sockets are fitted in the correct position in the case if you want the “R” and “L” to line up correctly!

Fit the IEC socket, the new Alps Blue, the new LED and new headphone socket into the HeadphoneII. I found that the IEC socket is designed to fit into a thicker panel and was therefore a little loose when fitted. This is easily cured by applying a line of glue on the inside where the case meets the socket. Note also that the headphone socket is a tight fit on the front panel and care must be taken not to over-tighten it and strip the threads. Also note that it must be fitted with the rounded corner of the socket and earth tag uppermost, otherwise the front panel will not fit onto the case. Now fit the transformers into the case. You will be relieved to learn that the wires are long enough to fit in the new case and you won't need to re-wire the output transformer connections to accommodate the HeadphoneII, even if you made use of the tag strip on the PCB to select the output impedance, which I didn't!

Figure 6. The Electronics Installed in the Headphone II

Before screwing the PCB in place, remove the fuse holder from the PCB as this is no longer needed. The fuse is now an integral part of the IEC socket. Now fit the PCB in place.

Solder the chassis earth tag onto a short piece of green/yellow earth wire and also to a length of black wire that will be long enough to reach the earth point on the PCB. Scrap the paint from around the earth tag hole and fit the earth binding post in place. While you have "paint scraping" in mind, now would be a good time to remove some paint around a bottom case fixing hole and the corresponding hole in the lid to ensure a good connection between these two when the case is assembled.

Figure 7. Rear View of Completed Upgrade

The aluminium clips in the old case can be salvaged and double-sided sticky fixers can be purchased from a local stationery store and used to fit the clips in the new case. I used one to clamp the mains wire from the transformer and another to hold the wires from the output transformers neatly in place.

Wiring Up to the Case

Figure 8. Close-up of IEC Socket

Carefully remove the screened wires from the Old Alps Blue potentiometer and reconnect them to the same points on the new Alps Blue. Re-connect the screened wire to the phono sockets, ensuring the left and right channels are connected to the correct sockets. I ran the screened wire underneath the PCB and it was just long enough to do this and make a neat connection. Run two wires from the Blue LED and connect up to the PCB heater tabs that connect to the mains transformer. Note that it doesn't matter which way round you connect these as the heaters are supplied with AC and the LED will only conduct during the appropriate half-cycle!

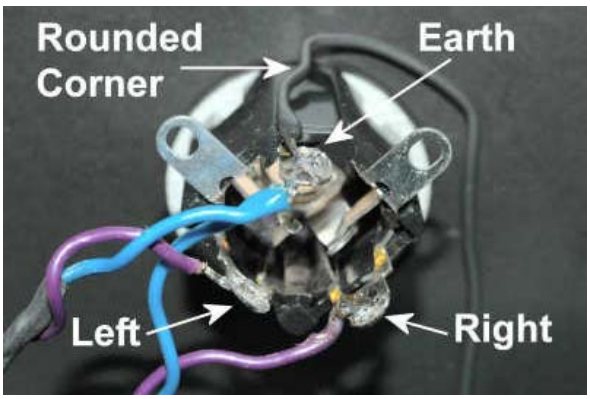

Figure 9. Headphone Socket Connections

Connect the black wire from the earth post to the earth tag on the PCB. Connect the green/yellow earth wire from the earth post to the appropriate terminal on the IEC socket. Cut the blue and brown wires from the mains transformer to length and solder to the mains switch in the IEC socket. Using the blue and brown wire off-cuts, link the neutral side of the mains switch to the IEC socket and the live side to the fuse. Now remember to install a fuse in the fuse holder, as this will prevent a lot of head-scratching later!

Figure 10. The Finished Headphone II

Finally, remove the connections from the old headphone socket and connect them to the new socket. On the old socket, the front tag corresponding to the tip of the jack plug is the left channel and that needs to be connected to the lower left-hand tag of the new socket (when viewed from the rear). The middle tab on the old socket is the right channel and that should be connected to the right-hand tag of the new socket. The upper-left and right tags of the new socket are not used.

I like to apply a small drop of glue to the threads of the screws holding the transformers in place to avoid the risk of them working loose in the future. Of course, a proprietary compound made specifically for the purpose can be used, but I have found that ordinary household clear gel adhesive works just as well.

All that remains to do is to fit the new chrome knob and install your new HeadphoneII into your Hi-Fi system. It is now a perfect match for any existing WAD equipment and the high quality finish of the case will complement any top-end Hi-Fi setup. Plug in your headphones, drop your favourite LP onto the turntable and relax in the gentle blue glow of the LED!

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