

Modifications to improve sound quality

Caution: Only perform the modifications if you have a temperature controlled soldering iron, otherwise the PCB traces might get peeled and damaged due to very hot temperature. Also, only perform modification if you have the black ATS heatsink ATS-TI1OP-519-C1-R3, the non-ATS retrofit silver colored heatsink will be very hard to put back on the module.

Level 1 modification

1. **IMPORTANT:** Remove ALL capacitors on C11 and C16, including ceramic caps on the top side PCB (if present)
2. Change AVDD cap to 100uF Panasonic FC 16V or higher (EEU-FC1E101SB)
3. Change input coupling caps to Elna Silmic II 10uF 35V (RFS-35V100ME3#5)
4. Desolder R1, R2, R4, R3 resistors, then put solder blob or zero ohm 0603 resistor. Then remove / desolder the capacitors beside them (C5, C6, C7, C8)

For modules sold before Sept. 2021:

5. Verify if RA1, RA2, RB1, RB2 is 0 ohm or shorted with solder blob (needs to be 0 ohm)
6. Check the bottom part of opamp DIP-8 adapter, there should be **NO** SMT caps installed

Level 2 modifications (requires SMT soldering)

7. Change C19 (VBG) to 100nF 0603 (25V or higher)
8. If there's a pop sound on startup, change C18 (CSTART) to 22nF 0603 (25V or higher)