ROTEL RCD965BX Mods list

PSU

• Added separate 2 X 18V, 20VA, transformer to the analogue PSU 1 leads – AC1 and AC2 from board (A1141 & A1142. Connect OV to ground under C236/c243.
• Replaced all rectifier diodes with Schottky 11DQ10
• Replaced analog reservoir caps with caps with 4700uF/25V Panasonic FC and replaced ceramic and MKT caps with Roderstein MKP
• Replaced all fixed 5V and 15V regs with LM317/LM337 based regs "Super Ray Regs" from the Marantz CD63 & CD67 mods list at diyaudio.com. (This is a huge thread which can be mined for a great deal of useful information - but it is a tough slog to get through.

Analogue op-amp and output

• Removed XR5534A, fitted 8 pin sockets and inserted LME49710 from National Semi.
• Replaced decoupling caps with 220uf/25V Silmic II
• Replace ceramic bypass caps with 0.1uF 63V MKP
• Replace C219/220 bypass with 0.22uF PPS (Panasonic) underside of PCB.
• Replace the 10R resistors in supply lines with Ferrite beads on wire jumpers, two beads per jumper.
• All resistors swapped to equivalent Holco.
• Replace 100uF DC blocking cap with 10uF/50V Black Gate N
• Removed everything after the
• Remove inductors l105/106
• Remove muting transistors and resistors (Not needed. just switch on the CD player before the amp to avoid noise)
• Replace R227/228 10K with 100k PHP/Holco
• Replace R229/230 with 47R5 Holco 1W
• Remove R233/234 and jumper to RCA.
• Fit new RCA on back panel in line with output stage

DAC (U112 SAA7323GP)

• Removed C178 and U113, 7805 reg and replaced it with six LM317 based "Ray regs," fitted in the PCB holes left by removal of the 4R7 supply line resistors. i.e.:
  1 reg each to pins 11 and 43 – analog supply
  1 reg to pin 15 – supply for reference voltage generator
  1 reg to pin 39 – analog logic
  1 reg to pin 22 – supply for digital section
  1 reg to pin 23 – supply for crystal oscillator.
  (Note: you will need to separate the traces and make some new holes in the pcb to fit these last two regs.)

- All regs were bypassed by 100uF/10V Rubycon ZL caps as close as possible to the DAC supply pins. No small parallel bypass caps were fitted.
- The DAC analog supply regs are fed by one secondary of a 2 x 7.5V, 30VA transformer, schotky rectifier, and FC smoothing caps. The digital regs are fed by the other secondary with duplicated rectifier and caps.

Reclocking

- Removed the X102 Crystal, caps and resistor and inserted Tent XO module with dedicated regulator and transformer PSU.

Other Digital Chips.

Decoder (U106 SAA7310GP)
DRAM (U107 MPD41416)
Filter (U111 SAA7220)

- Disconnect from existing +5V supply and installed new transformer with 7.5V, 30VA transformer, schotky rectifiers, and FC smoothing caps.
- Remove all decoupling electrolytics and ceramic bypass.
- Insert 100uF/10V Rubycon ZL caps in the pcb holes closest to the chips.
- Fit a separate LM317 based "Ray reg" for each chip.
- Note that the SAA7220 draws 180mA and the regulator will need a big lump of heatsink. About 5 degrees C/W would be OK.
- Also, consider fixing a heatsink to the 7220.

Mechanical:
- Lots of bitumastic damping material on the case and especially the mechanis. Its a fiddly job but worth it.

Digital Out (For the die-hards)
Remove RCA board from back panel and remove coax cables from PCB. Remove all components of the digital out circuit and supply cut tracks.

Present Focus
- Replacing output op-amps with JFET based discrete output, single ended class A. I am currently investigating the Nelson Pass JFET BOZ.

Future Plans

Disc Drive mechanism and laser
- Install +9V regulators for TCA03720 chips – U102, U105.
- Install +5V regulators for TDA8808T chips – U103, U104.
- Check the usefulness of a 100nf ceramic across spindle motor reputed to reduce RF noise.
- Blue LED for transport?!?!

Analog Out.
- Replace op-amp with FET based buffer or discrete op-amp or buffer, preferable single ended class A,