

## **Changes from rev 0.4 to rev 0.5 of the mcHF UI and RF boards and Schematics**

### **Changes on the UI board:**

- U3 and U3a switches Vcc rail moved from digital 3.3V supply to Analog 3.3V rail
- R8 no longer connected to Codec MICBIAS pin, but analog 3.3V rail
- Added R4c resistor in audio PA, declared as 0 ohm, replace to suit needs
- U3a moved from Top side to Bottom side of the PCB, together with components
- Added C1a, C1a and C1c on analog CPU lines to improve noise breakthrough
- Better utilization of HW CPU ports, freed USART for optional usage via jumpers
- Added option for ESP8266 WiFi unit on top side of the board
- Removed programming connector connections on the P8 service connector
- Added LCD TP to CPU connection via jumpers R30-R34 (optional)
- USB Host 5V supply via optional regulator
- All USB signals (DFU and Host) routed as differential pair with 150mil tolerance

### **Changes on the RF board:**

- LO simplified, removed components with different power rails and Schmitt triggers
- T5 replaced as hand wound component
- PA driver bias controlled by the PTT line now, to reduce Idle power consumption
- T7 has updated footprint now, to support old and mod transformer design
- modified footprints on the tandem match, so can use coax for single turn part
- SWR tandem match, traces matched to achieve better symmetry
- PA switchable bias updated as described in the mods document
- PIN switches value reflect latest mods
- lots of components added to improve PA stability (please check mods pdf)
- T1 and T4 pads expanded to allow easier soldering
- U6 pads extended as well
- All LO traces to mixers now matched to 5 mil tolerance to match impedance
- Added soldering pads for metal shielding cans around modules (optional)

Note: Please check mcHF\_board\_modifications\_20150928.pdf by Clint(KA7OEI), available in the Files section in the group for detailed explanation of the reasons for the changes.