

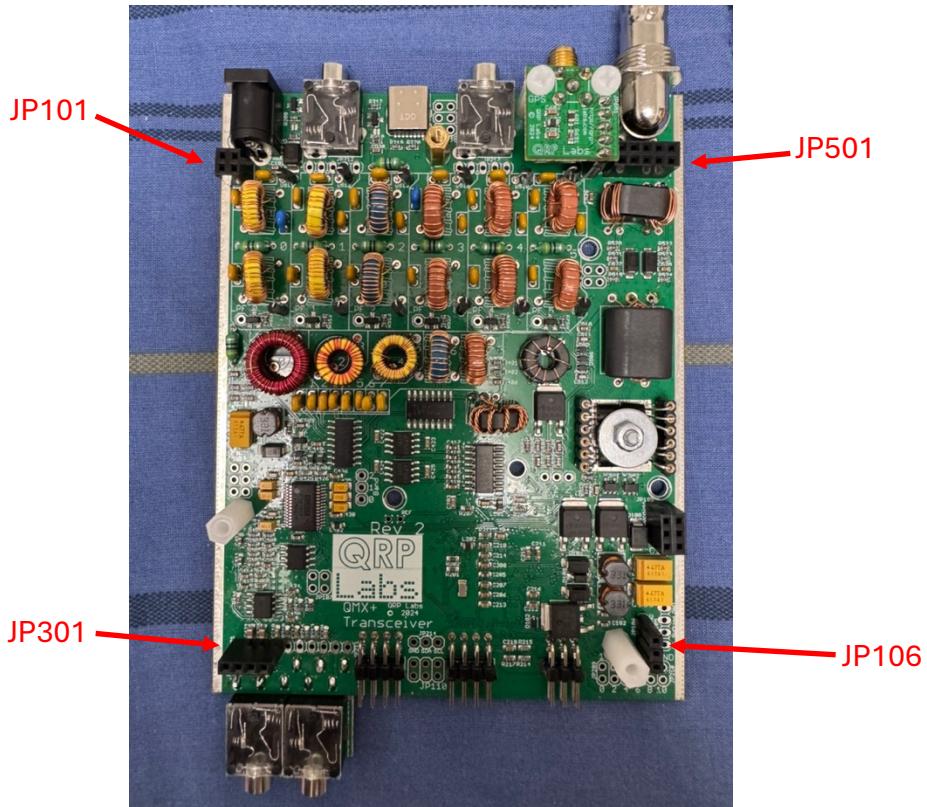
QMX+ ATU, Battery, Charger and speaker solution

Build instructions

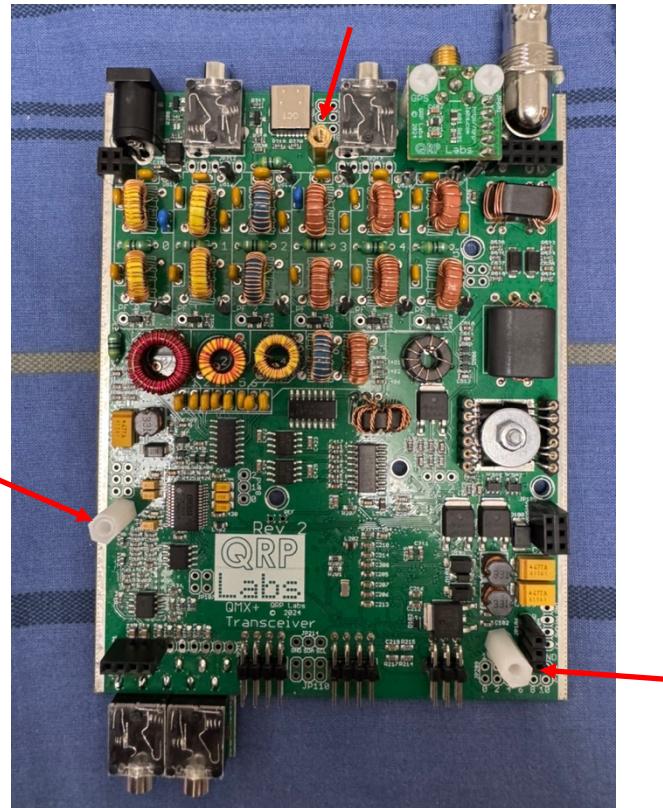
Ver 1.0 (DRAFT)

By AC8L

1. Install connectors to the QMX+ main board

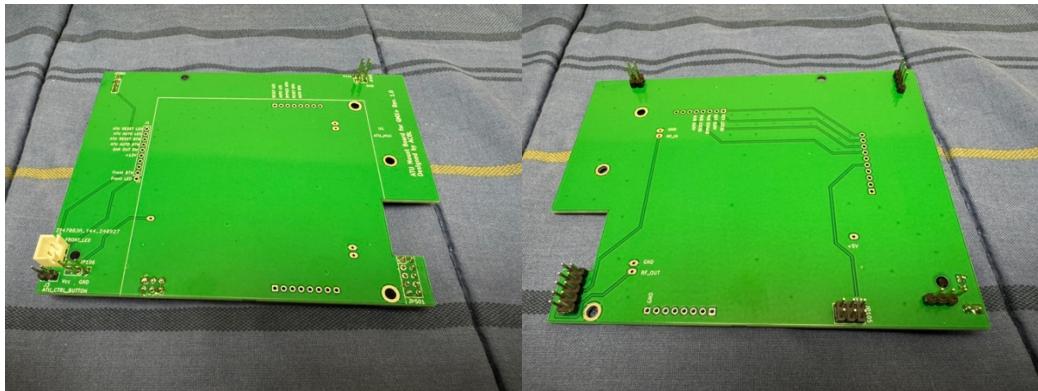


2. Install three 11mm nylon standoff spacers

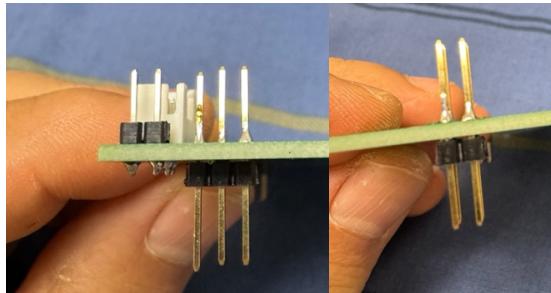


Use 6mm nylon screws to secure spacers from the bottom of the QMX+ main board.

3. Install pin headers to ATU Mounting PCB



Remember, JP106 connector (left) and JP102 connector are long-tail! Make sure the plastic part at the bottom of the PCB.



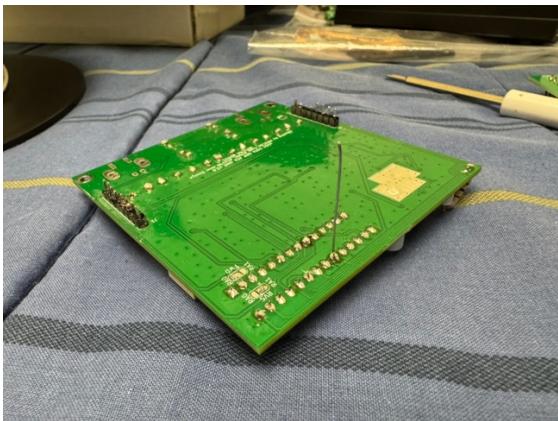
- Only J2 (front-panel LED) and J3 (front-panel button) connectors are soldered on the front of the PCB. All others – on the back.
- At this point we DO NOT attach J1 connector!

The best tactic is to make sure pin headers are properly aligned with the female connectors on QMX+:

- Insert them into the female connectors on QMX+ main board
- Place ATU mount PCB on top, make sure pin headers are all inserted into their places on the ATU mount PCB.
- Temporarily secure the ATU Mount PCB to the QMX+ using three 6mm nylon screws. Screw them into the nylon spacers that are already attached to the QMX+ main board.
- Carefully solder pin headers of all connectors from the top of the ATU mount PCB.
- Unscrew 6mm nylon screws and detach the ATU mount PCB from QMX+.

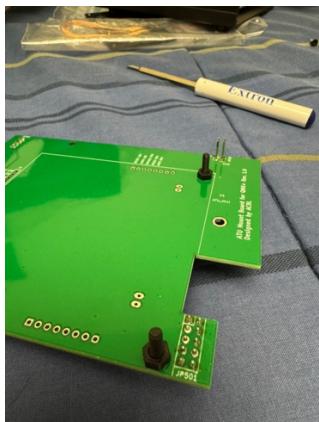
4. Prepare ATU to be soldered to the ATU Mount PCB

At this point ATU has to be fully assembled with all the toroids and DIP socket installed on it.



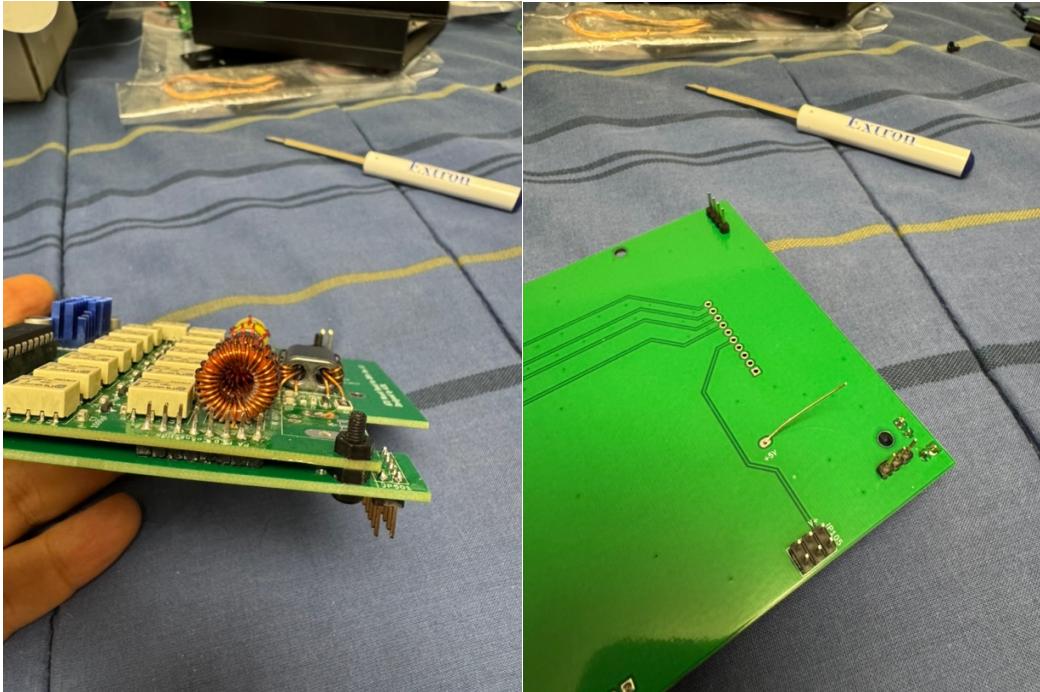
Solder both 8-pin male pin headers to the ATU from the bottom (see photo above). Also solder one of the left-over through-hole component pins to the PIN 20 of the pc microcontroller. On the photo above it is a pin 6 from above on the row close to the PCB edge. Make sure the soldered PIN is as vertical as possible.

5. Prepare the ATU Mount PCB for the ATU to be mounted on it

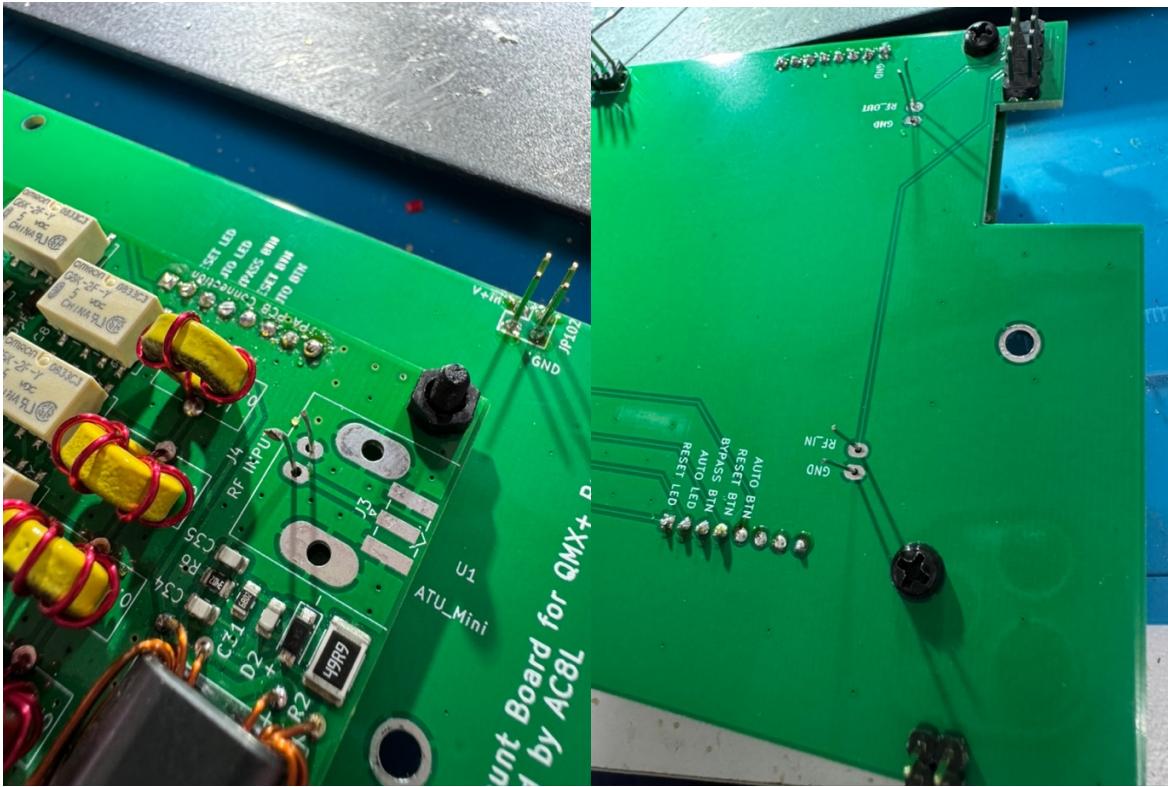


Attach two 12mm nylon screws from the bottom of the ATU mount PCB and secure them with hex nylon nuts from the top.

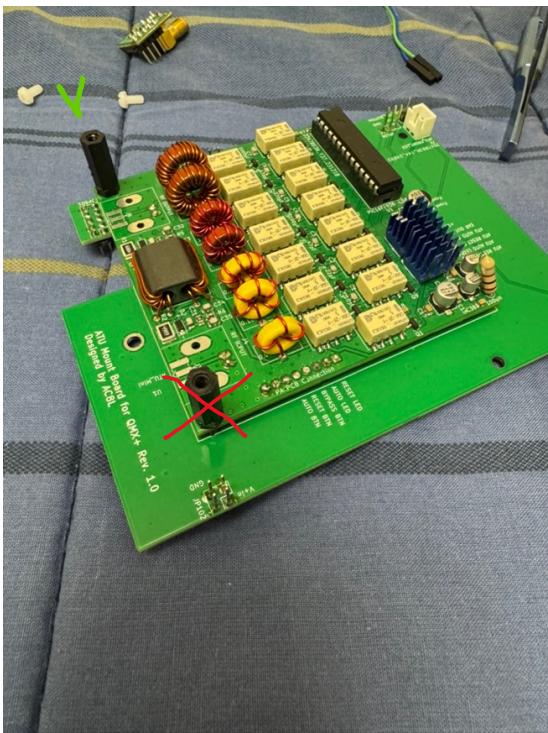
6. Attach ATU to the ATU Mount PCB



- Place the ATU on the top of the ATU mount PCB, make sure pin headers go through their holes on the ATU mount PCB and 12mm nylon screws go through their mounting holes on the ATU itself (left photo).
- Also, make sure the vertical pin soldered to the PIC microcontroller pin is also passed through its place on ATU mount PCB (right photo). The soldering pad it goes through marked “+5V”.
- Secure the ATU to the ATU mounting PCB using hex nuts (left photo).
- Solder pin headers from the bottom of the ATU mount PCB.
- Solder +5V pin to its soldering pad (left photo).



- Insert 2 left-over pins from through-hole components into RF-IN and ground pin next to it (left photo).
- Make sure other side of pins are protruded through their corresponding soldering pads from the ATU Mount PCB bottom (right photo).
- Do the same for RF-OUT connectors.
- Solder top and the bottom of left-over pins.
- Cut all excessive pin headers from the bottom of the ATU mount PCB and from the top of the ATU.



Attach ONE M3 15mm Nylon female-female spacer on top of the hex nylon nut securing the ATU to the ATU Mount board. Do it only for the 12mm screw close to the JP501 connector.

This concludes the ATU mount PCB assembly.