

Assembly of the Aazero-II (2024-10-29)

1. Pre-assemble the battery holder and switch wired per the schematic. I used solder tab LiPo cell, but if you have one without tabs, small pieces of metal soldered to the wires can be fitted to the battery holder. Some modifications to the holder with a Dremel tool will be necessary.
2. Connect the battery holder to the voltage regulator/charger module per schematic and photos.
3. BE SURE to measure the 5 Volt DC output of the regulator board and adjust it for 5.0 Volts if it is anything else.
4. Cut a DATA cable for the USB micro connection with about 4" of cable stripped to bare the wires. Connect the 2 data lines from the USB micro to the USB extender board data pins. Connect the 5 Volt line from the micro USB cable to the Regulator/charger board. Connect the 5 Volt connection on the USB extender board to the Regulator/charger board input, and the ground from the micro USB extender board to the Regulator/charger board, per the schematic and photos. **NOTE: If you want to test the setup before final assembly, skip to step 7 to make an operational test before going back to step 6.**
5. Drill 2 holes to mount the USB extender board and mount it with 2 small screws. It will help to use another micro USB cable plugged into the extender board to position it correctly.
6. Mount the battery holder and switch assembly and the Regulator/charger board into the case with hot glue or epoxy or similar.
7. Plug the display module into the main board. Plug the laser module if used into the main board.
8. Download and program the ESP-32 module. Plug it into the main board when satisfactorily programmed.
9. The 2 back spacers for the AA-zero RF module will probably need to be drilled out if the 3d printer filled in the holes too much. Mount the 2 back spacers to the main board. Plug the RF board into the main board while positioning the 2 front offset spacers properly. Fasten the RF board to the rear spacers with 2 more small screws.
10. Position the main board in the case so your display is centered in the display opening. Mark the position of the 4 holes of the main board into the case and drill holes in those positions for screws.
11. Mount the main board in the case.
12. Connect the SMA to SO-239 adapter to the RF board through the case hole. It should be a tight fit, providing some rigidity for connection to the outside world.
13. Snap the bottom on the case and test you antenna system. Operational instructions are posted elsewhere in this project.