

PCBA 5010-4 Battery Analyzer RE3 Customer Self-Service Repair Addition of 10k Ohm Resistors for Version 1 and Version 2 Hardware September 2014

Tools and supplies needed

- Hex H2 screwdriver
- Soldering iron
- Solder
- Solder flux
- Acetone
- Q Tips
- 1206 10k Ohm resistor – qty 1 per unit
- 0805 10k Ohm resistor – qty 4 per unit
- Xacto knife
- Tweezers
- Magnifying glasses or optical headset to clearly see working with small components if needed for us older guys and gals with fading near-vision eyesight

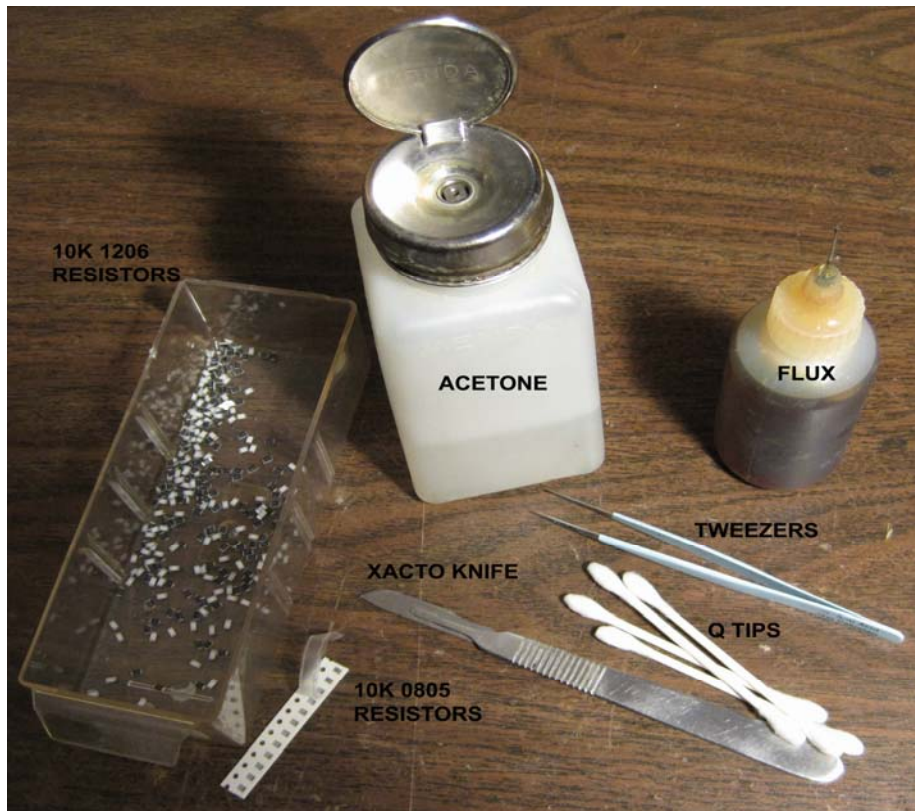


Image 1 – Tools – plus not shown, solder, soldering iron, screw driver, vision wear

Step 1

Unplug analyzer and let stand minimum of 30 minutes to allow internal voltages to dissipate.

Step 2

Remove cover screws and cover. If cover is difficult to remove, pry apart with fingers under back two corners to relieve binding stress in order to separate from base.

Main Power Board – Version 2 Hardware – Addition of 1206 10k Resistor

Step 3

Tuck wires running from main power board to heat sink resistors out of the way so as not to melt insulation by accident while soldering.

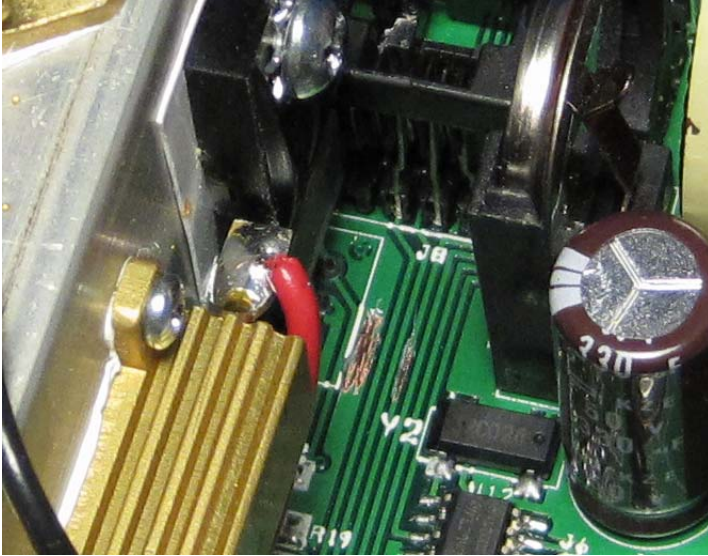


Image 2 – scrape solder mask above Y of Y2

Step 4 - Scrape solder mask off trace of main power board just above letter Y of white Y2 component text located in back left corner of unit. Also scrape solder mask from ground plane to left of Y2 text as shown in Image 2 above. Clean scraping debris with Q tip and acetone.

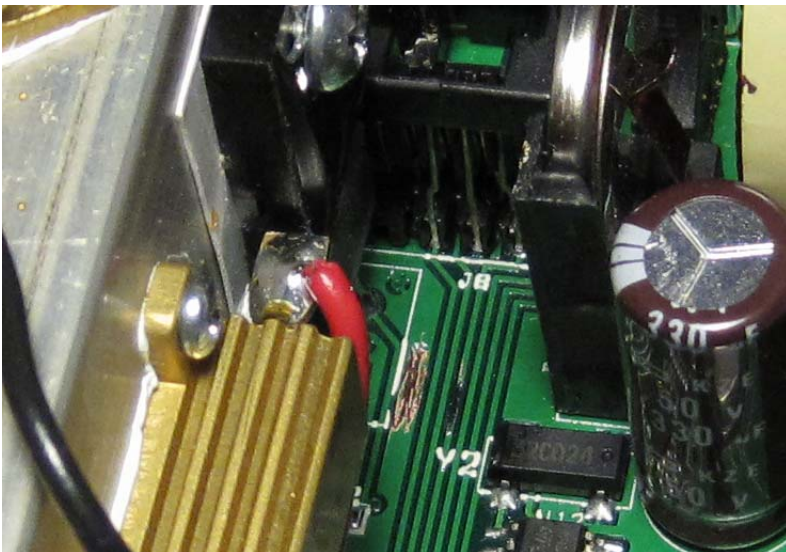


Image 3 – tin trace above Y of Y2

Step 5 - Add flux and solder in order to tin trace above Y2 text as shown in Image 3. Tin trace only, do not tin ground plane yet.

Main Power Board – Version 2 Hardware – Addition of 1206 10k Resistor

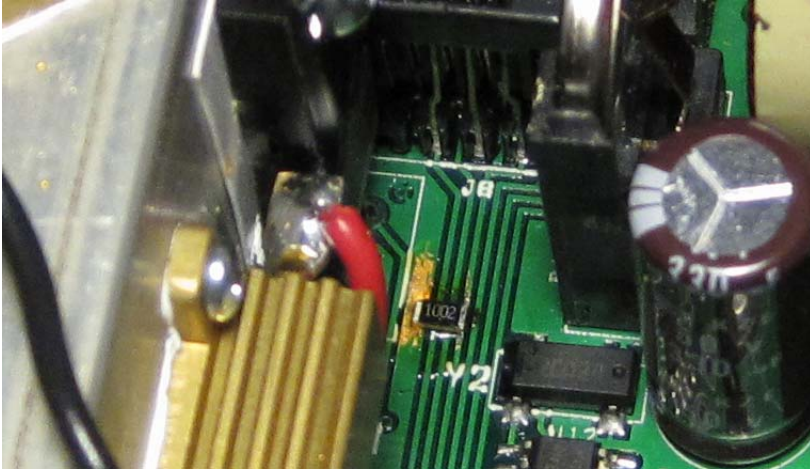


Image 4 – solder right side 10k 1206 resistor

Step 6 – Flux and solder right side of 1206 10k resistor into position on tinned trace at Y2 as shown in Image 4.

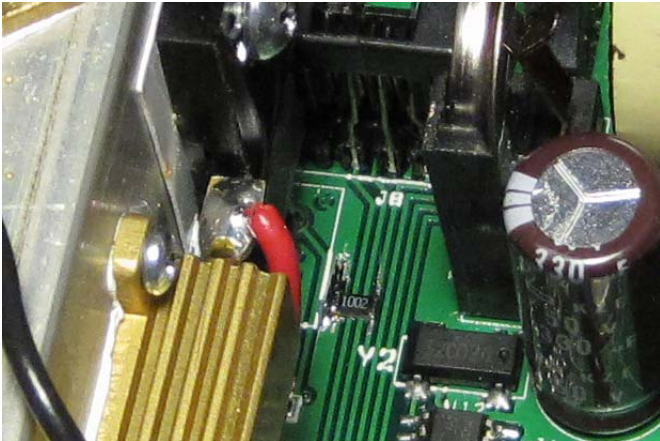


Image 5 – solder left side 10k 1206 resistor and clean

Step 7 – Flux and solder left side of 1206 10k resistor to ground plane secondarily. Finish by cleaning flux and debris with Q tip and acetone solvent as shown in Image 5. Inspect your work and you are done with main power board version two hardware.

Main Power Board – Version 1 Hardware – Addition of 1206 10k Resistor

For older version 1 hardware, units numbered 0-24, apply the same steps as for version 2 hardware above except position the 1206 10k resistor on the circuit board connecting to the third track from left side under tip of 7 of J7 white silkscreen text as shown in Images 6 and 7 below.

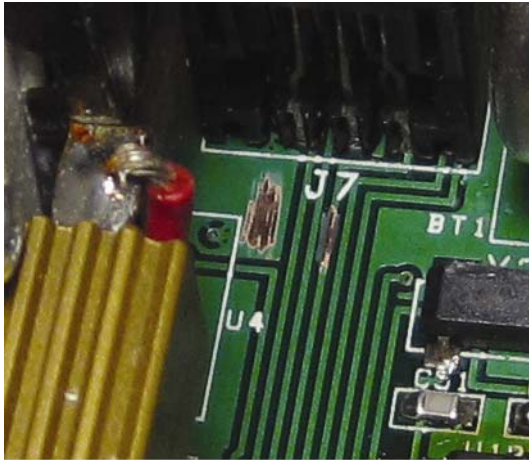


Image 6 – scrape version 1 hardware

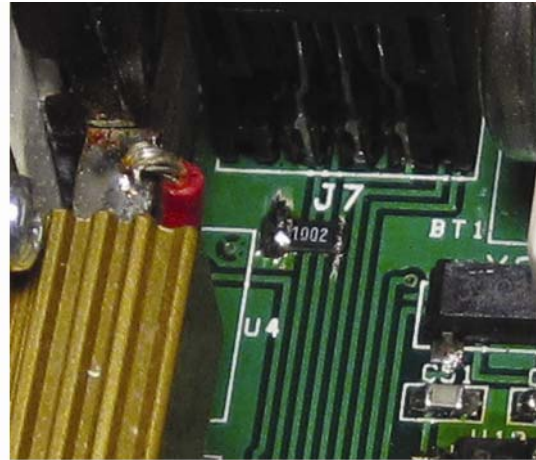


Image 7 – solder version 1 hardware

Version 1 hardware 1206 10k resistor connects to third track from left hand side under leg of 7 of J7 silkscreen text.

Four Channel Boards – Addition of 0805 10k Resistors Both Version 1 and Version 2 Hardware

Step 8 – With the unit sitting on its side, heatsink facing down, flux the backside of each channel board's square pad located at right back position and also flux adjacent center round pad for each programming connector as shown in Image 8

Step 9 – For each channel, solder right hand side of **0805** 10k resistor into position on square pad at back right hand corner, then solder left side to adjacent round pad/pin also in back row. Once a resistor is roughly into place, and soldered on both sides, you may try alternating the soldering iron between both sides in a quick side-to-side motion in order to simultaneously melt the solder on both sides to reflow the resistor neatly into position between the pads and pins.

If it is too difficult to reflow the resistors by moving the solder iron from side-to-side in a quick motion then just leave them connected as was done by soldering them one side at a time and do not worry about trying to reflow their positions so long as the resistors are connected as needed and are not touching any other pads or pins by accident. Image 9

Step 10 – Clean flux residue with Q tip and acetone and inspect your work. Image 10.
Replace cover and screws and you are finished.

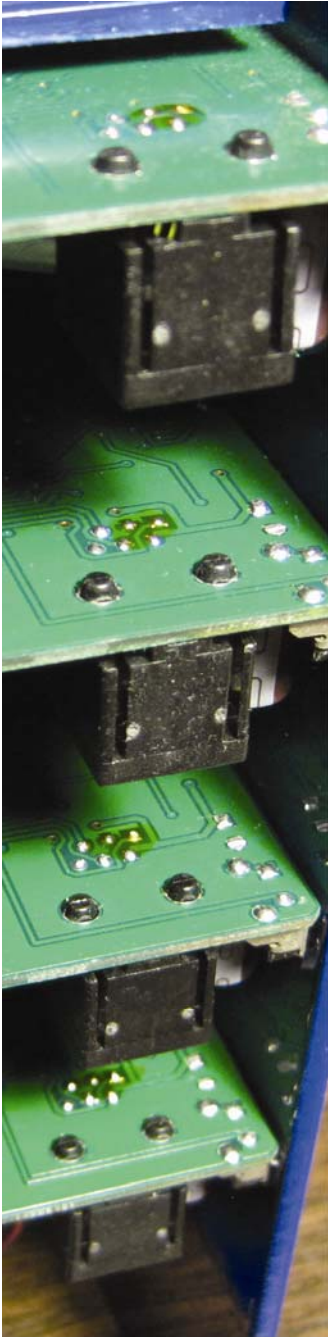


Image 8 – flux channels



Image 9 – solder channels



Image 10 – clean channels