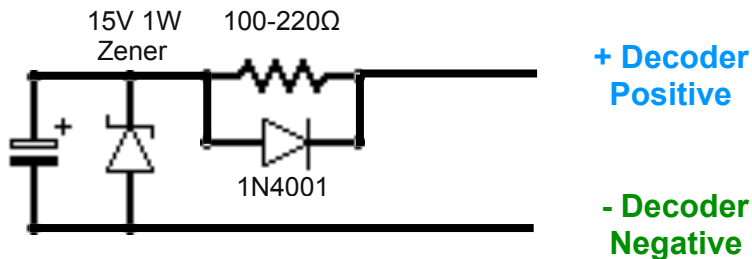


Scale Sound Systems

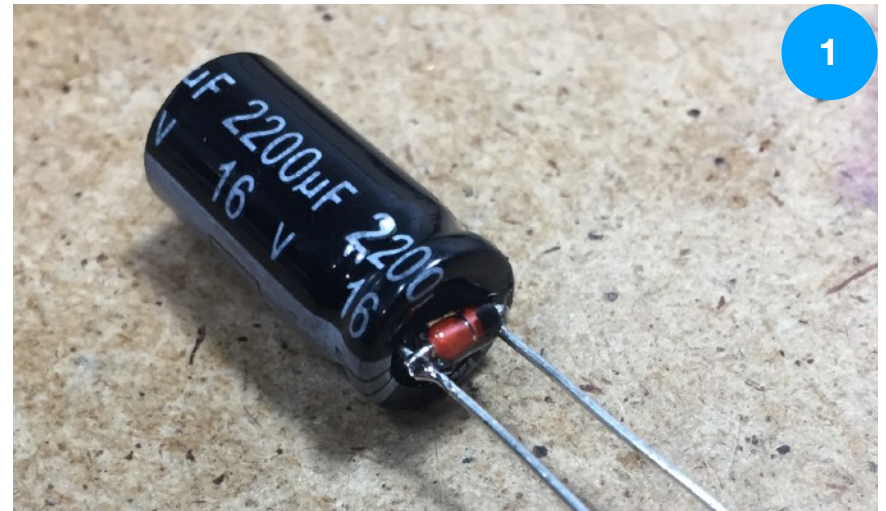
Stay-Alive Kit Instructions

The schematic below shows how to wire the stay-alive circuit. The parallel resistor/diode provide in-rush protection so that multiple stay-alive equipped locomotives will not cause your DCC system's booster to go into protect. This is optional. If your layout's locomotives are on "dead" tracks upon layout power up, the booster won't be trying to charge all of the stay-alive caps at the same time, so no in-rush problem will occur. Keep in mind however, that if you have large lash-ups of multiple-units, in-rush problems may still occur.

The 15V 1W Zener diode wired parallel with the capacitor is a voltage-limiter. If the locomotive is placed on a layout who's DCC voltage is greater than 16V, this will prevent the capacitor from blowing. This is also optional, as most DCC systems for HO run between 12V and 14V, but it is a safety precaution you may wish to include.



Start the assembly by soldering the Zener diode to the capacitor's leads. Be sure to orient the Zener's cathode (stripe) to the capacitor's anode (positive). Trim the Zener's excess leads.



Next, hold the 1N4001 Diode and the resistor together and twist the ends together. Solder these connections and trim the excess.



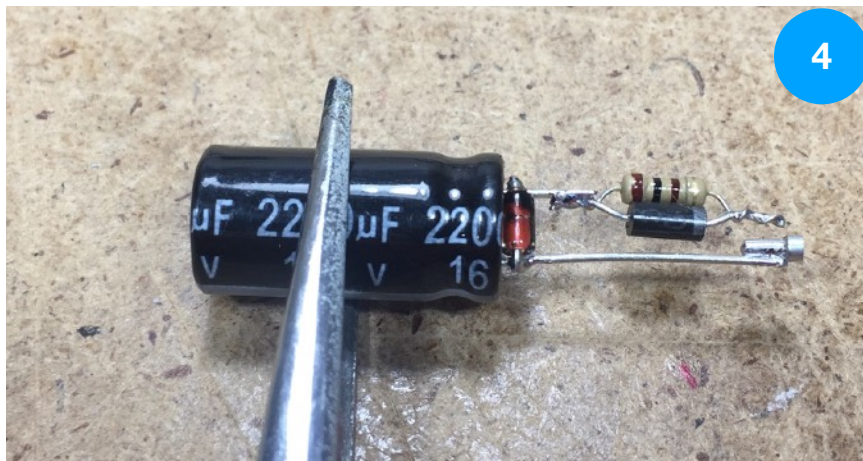
Tin & solder the resistor/diode assembly to the capacitor's positive lead.



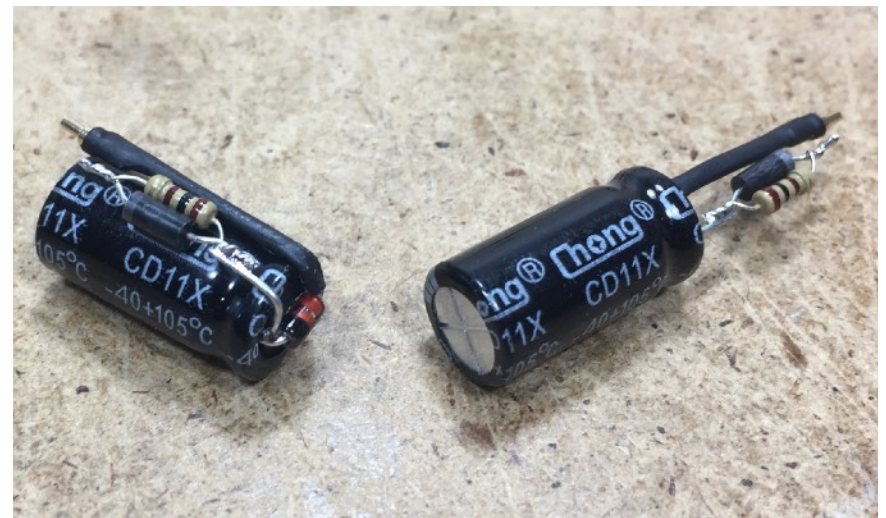
Finally, slip some 1.5mm heat shrink over the negative lead and tighten it down with a clean soldering iron.



Tin and solder the micro-pin socket to the capacitor's negative lead.



As shown here on the left, after you solder the Zener to the capacitor, you can bend the capacitor's leads back on itself and finish the final assembly for a more compact stay-alive.



Feel free to contact me if you have any questions concerning the assembly and use of this kit.