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## Sencore LC-102 Cable 'zeroing' issue and 'fix'

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mbear2k

Post subject: Sencore LC-102 Cable 'zeroing' issue and 'fix'

□ Posted: Oct Sun 25, 2015 3:39 pm

Member



Joined: Nov Fri 06, 2009 1:04 am Posts: 2446 Location: Rochester, NY 14425 I've read a lot of postings at various sites about the Sencore LC102 and issues popping up with zeroing out the test cable. The process calls for two steps; one to leave the leads open and press the zero open switch, then short the leads and press the zero short switch. There is lots of discussion about cables, length, capacitance, RG-62, original Sencore cables and various other discussions - all around getting it to zero. And my understanding is that the zero function reads the cable and zeros out the cable characteristics to present it within an acceptable range the LC102 will use to maintain reading accuracy.

So my LC102 had been working fine with a home-made cable, but hadn't been used in a long while. I set it up to measure some disc caps and found the cable would not zero on short. I dug around and tried a few other cables, no luck. Did some more reading, and found discussions where someone measured the original Sencore LC-102 cable and arrived at 50pF. I also read about a common problem with relays in this model - corroded contacts, or pitted contacts for the discharge circuit - and that Sencore had recommended replacing 3 relays as a fix for several issues.

I decided to take a chance and do more of a hack than a fix - identify the zero relay and see if I could clean the contacts.

I determined the white relay was the zero function relay - and it is a simple DP/ST. Access to the underside of the relay is blocked by a pair of big 22watt resistors used to dump the cap under test and are connected to the clear relay in front of the white relay. So simply removing the relay to allow easier access to the contacts would be more invasive and the potential for damage was higher (the resisters are also glued to the board).



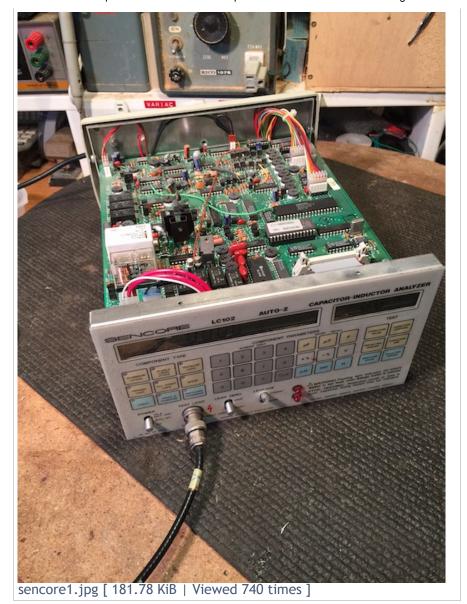


















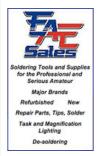
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Restoration Services



So my 'hack fix' was to gain access to the relay contacts from the top. In the past I've successfully used a small drill to allow access, but since the guts are not visible I didn't want to take a guess where to drill. So I pulled out the Dremel and gently and very slowly sliced in to the top of the relay. I think the one advantage to this method is that the Dremel cut-off wheel melts more than cuts, which keeps dust and plastic flecks to a minimum.





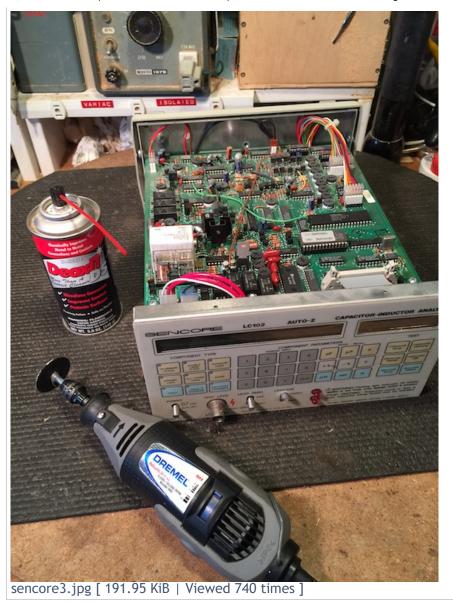




The only tools needed. I gave the contacts a squirt of De-Oxit, cleaned things up and put a strip of tape over the opening.

Attachment:

Tro





Success! I was able to zero out the cable I had made several years ago with no issue. I did some testing and things seem to be accurate and working well. As a side note, I found that with the electroinc zeroing feature, the LC102 is much less finicky about capacitance, cable type and length than reported. I grabbed a few other cable, RG-59, RG-62 at various lengths and the Sencore zeroed fine - both open and short. And, the cable I made a long while back (and use today) measures 200pF...

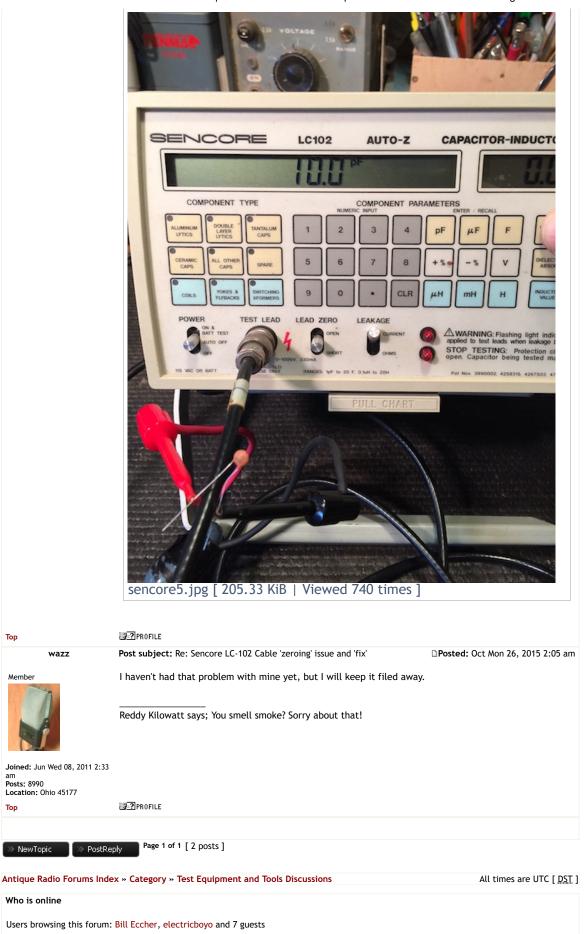
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