

input impedance of $50\text{M}\Omega$. If there is reader interest, we will detail the method in a future issue.

Difficulty in setting up Insulation Meter

I have just completed building the October 2009 Megohm & Insulation Meter from scratch (PC board to finish). When turned on for the first time the LCD showed the correct dialog etc and all looked fine. I connected the test wire and commenced the setting up process. The 1000V reading showed $103\mu\text{A}$.

Not to be outdone, I adjusted the trimpot but this had no effect on the reading. I changed to the 500V setting and the reading was $53.6\mu\text{A}$, with the last digit flashing between what looked like 3-6 when the test button was pressed.

I then checked the voltage at test points TP3 (2.48V) & TP1 (3.18) and re-

placed trimpot VR1, thinking it may be faulty but this gave no improvement.

The meter works but will not allow adjustment via VR1. Also when the test button is pressed, the last two digits of the $999\text{M}\Omega$ reading fluctuate/blink just ever so slightly.

I have checked the soldering under magnification and cannot see any dry joints. Any suggestions as to what could be the cause would be appreciated. (S. F., Carina Heights, Qld).

- The voltage readings you are getting are not a cause for serious concern but from your figures it sounds as if the main cause of the deviations is the slightly low voltage at TP1 and the $V_{\text{REF+}}$ input of IC3. At 3.18V , this would be making the ADC read at least 2% high.

So to fix this, try replacing the 270Ω resistor (in series with the $5.6\text{k}\Omega$ resistor from TP1 to ground) with one of 300Ω , to see if this moves the TP1 voltage nearer to 3.20V . If it moves up

too far, you could then try shunting the 300Ω resistor with a high value, to nudge it back down to the $3.20V$ level.