

## ADJUSTING THE SR830 DC OFFSET AND COMMON MODE REJECTION

1. The DC offset and CMRR adjustments affect each other and must be done together. This procedure requires a 50 Ohm terminator, a BNC Tee, 2 BNC cables, and a small slotted screwdriver to adjust the potentiometer.
2. Turn the unit "On" while holding the "Setup" key down. Let it warm up for at least an hour.
3. Front panel settings (from left to right):
  - Time Constant: Set "Slope/Oct" to "24 dB".
  - Sensitivity: Select "100 mV".
  - Channel 1: Select "R".
  - Reference: Select "Freq". Change frequency to 1 Hz (by rotating the knob).  
Select "Amp". Change the amplitude to 0.004 V (by rotating the knob).
4. The voltage and CMRR adjust pots are located inside the aluminum shield on the bottom board. When facing front panel, the voltage pot is the second one from the left, and the CMRR pot is the third one from the left.
5. Connect a 50 Ohm terminator to the A input.
6. Using small slotted screw driver, adjust the Voltage offset pot until R is less than 10 mV.
7. Set Sensitivity to "10 mV". Repeat step 6 until R is less than 1 mV.
8. Set Sensitivity to "1 mV". Repeat step 6 until R is less than 0.02 mV.
9. Remove 50 Ohm terminator from A input.
10. Put Tee on Sine Output BNC and connect both BNC cables to the Tee. Connect the other ends of the cables to the A and B input BNCs.
11. Front panel settings (from left to right):
  - Time Constant: Turn on "Sync Filter".
  - Signal input: Select "A-B" and "DC".
  - Sensitivity: Select "2 mV".
  - Reference: Select "Freq". Change frequency to 100 Hz.  
Select "Ampl". Change the amplitude to 1 V full scale.
12. Adjust the Common Mode pot until R is less than 0.2 mV.
13. Set Sensitivity to "200  $\mu$ V". Readjust the Common mode pot until R is less than 2  $\mu$ V.
14. Remove all existing cables and reconnect 50 Ohm terminator to A input.
15. Front panel settings (from left to right):
  - Time constant: Turn off "Sync Filter".
  - Signal input: Select "A" and "AC".
  - Sensitivity: Select "1 mV".
  - Reference: Select "Freq". Change the frequency to 1 Hz.  
Select "Ampl". Change the amplitude to 0.004 V.
16. Adjust the Voltage Input offset until R is less than 0.02 mV.