

Solar tracker could be a hot box

I would like to offer some comments about the Solar Tracker in the January 1995 issue. In full sun, the temperature in that electronics box will exceed 100°C , which may prove to be destructive. I suggest it be placed

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under the panel or fitted with a sun screen so that only the sensors are exposed.

It seems to me that a sun-tracker only needs to operate when there is a sun to track; at other times the panel should centre. The mercury switches could be arranged to do that. The night sensor could face south and operate a comparator which would switch from the centre position mode to the tracking mode whenever the direct sunlight exceeded the average reflected southlight.

**B. Jolly,
Tranmere, SA.**

Sun tracker circuit query

I have waited for some time for a construction article on a sun-tracker. Now you have published one which is very good but I am puzzled by a couple of things about the circuit. Why is pin 4 of the 555 not connected to pin 8 as recommended in the National Semiconductor application notes for this device? And why is there no bypass capacitor on pin 5?

I also believe it would be normal practice to provide separate gate resistors for the FET switches. Finally, why are there no power supply filter capacitors across the 12V supply?.

Other than this I intend to build the unit as soon as I can get my hands on a PC board from RCS Radio.

**Cliff Wylie,
Leumeah, NSW.**

Comment: while National Semiconductor do recommend that pin 4 is tied high, it is not mandatory for it to be so. Nor is a capacitor at pin 5 mandatory. Individual gate resistors for the Mosfets would normally be used in a switching circuit but since the voltages in this circuit are so static, they are not required.

Bypass capacitors for the supply are also not mandatory since the circuit is powered directly from a lead-acid battery. Having said that, there is no reason why you should not change the circuit to tie pin 4 high, add a capacitor to pin 5 and so on. We understand that RCS Radio Pty Ltd has produced a PC board with these modifications included.