Why is my State of Charge (SOC) reading inaccurate?

Note: The PL makes all its charging decisions based on battery voltage, not SOC or BCAP. Therefore, inaccuracies in SOC have no effect on the charging regime.

The following is a list a checks to confirm the accuracy of SOC readings.

1) Ensure you are monitoring all currents in and out of your battery.

2) Ensure your BCAP is set correctly.
   eg. If two 6V 1000Ah batteries are connected in series, then the result is 12V 1000Ah, not 12V 2000Ah.
   Use the lower BCAP value for you batteries. eg. If the C100 rating of the batteries is 2400Ah and the C20 rate is 2000Ah, use the C20 rate.

3) Manually recharge the battery to its full capacity and reset the SOC to 100%.
   To do this run a generator during a sunny day and manually force the PL into BOST (or EQUL if using a flooded lead acid battery) by subsequent long pushes on the BATV screen. When the battery is fully charged and the PL goes into Float (FLOT) mode, do a long push on the DATA/SOC screen to reset to 100%. Only manually reset the PL to 100% when you know your batteries are in a known full state of charge.

   Note: Over time, the amp hour balance counter will drift out of line with the real battery state of charge. To realign the counter the PL automatically makes two corrections:

   1. When the regulator state changes from Absorb to Float AND the battery is only taking a quarter of the available charge, SOC is reset to 100%.

   2. SOC is capable of reading more than 100%, however as soon as 1Ah of discharge is recorded it will be set back to 100%, thus discarding any surplus amp hours.

4) Check battery condition.
   Use a multimeter to check the voltage of the batteries.
   Check each cell. The voltage across each battery / cell should be the same.
   Use a hydrometer to measure the specific gravity of the electrolyte for flooded batteries.

5) Fill out history data recording sheets and send into Plasmatronics for review.
   The A.6.1 System Settings and A.6.2 History Data sheets can be found on pages 38 and 39 of the PL Reference Manual.
   Please email completed sheets to: admin@plasmatronics.com.au
   Or fax: (03) 9486 9903 Attention: Technical support.