**Battery Charge Regulator**

**Purpose**

Each battery within the battery block has a Battery Charge Regulator (BCR) sitting between it and the Solar Array Bus. The BCR serves two purposes: charging the battery, and ensuring maximum power is gained from the solar array.

**The Circuit**

Power to each BCR enters from the solar array bus, and is sent to the LT3652 IC. This IC controls the peak power tracking, and battery charging, functionalities of the circuit.

The LT3652 measures the current entering from the solar input over a 12 hour cycle, and adjusts the digital potentiometer such that the voltage across the solar input leads to maximum power into the battery.

Sensors also feed input into the LT3652, giving information about the battery temperature and power consumption. If the battery statistics are not within the required ranges, battery charging is stopped.

**Progress:**

* The prototype was implemented and tested on a PCB as part of the original design process. It worked satisfactorily.
* This prototype was copied later in an attempt to implement the circuit, but due to complications it did not perform as expected.
* Presently, the design is classified as “prototype” and is under further testing. It is liable to be modified in the future.