

**Affected Products:** IPN-ProRemote  
Part numbers; IPNPRO, IPNPRO-S - Serial numbers; 1059500 or earlier

**Purpose:** Upgrade to Resolve Electrostatic Discharge (ESD) Induced Reset or Lockup

**Background:**

A small population IPN-ProRemote displays with serial number less than 1059500 may have a combination of aluminum display panel and LCD display device that can lead to lock-up or reset if a static spark jumps from the user's finger to the front panel. Should this occur the unit will operate normally following the reset but present battery amp-hour and percent capacity information will be lost until the charge controller again enters Float. The potential problem tends to be worse in conditions of very low humidity due to increased static electricity.

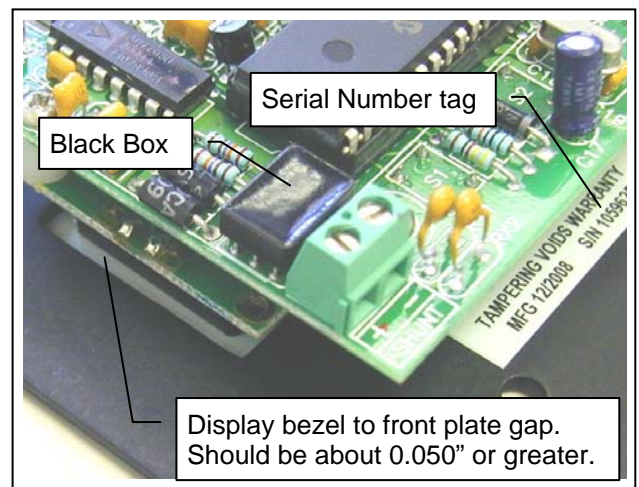
An upgrade is available to those customers experiencing this problem at no cost during the warranty period. The upgrade can be performed at Blue Sky Energy through the normal warranty process or is available as an upgrade kit, BSE part number 930-0042. Cost for the upgrade kit for units not under warranty is \$29 plus shipping. The kit consists of a new front panel with overlay and a different micro-processor with greater ESD immunity.



➤ **CAUTION:** Wear quality eye protection when performing this upgrade. Disconnect all power sources, PV & battery. If possible install the upgrade at a static safe work station using industry standard ESD handling practices. If a static safe work station is unavailable, discharge yourself by touching earth ground before handling the product or microprocessor. Avoid touching circuit board components to the extent possible. The risk of electrostatic damage increases substantially if relative humidity is less than 40%.

**Upgrade Eligibility**

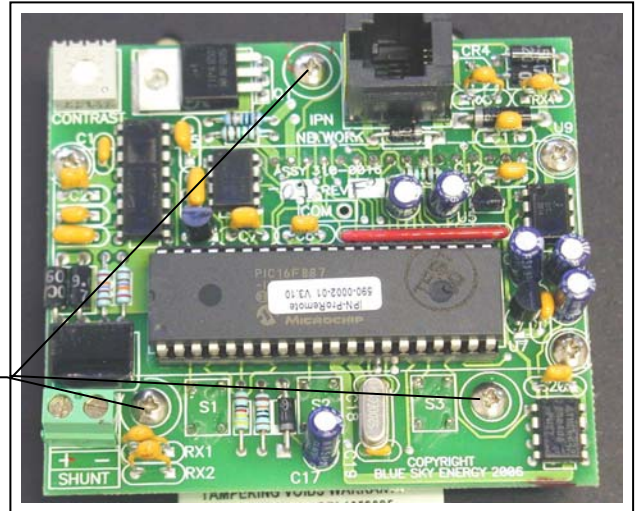
1. Units without a "black box" behind the shunt terminal block should not be upgraded. These units do not experience the front panel static spark reset problem.
2. Units eligible for upgrade will have both; 1) The "black box" present, and 2) Little or no gap between the display bezel and front panel plate. The display bezel to front panel plate gap should be about 0.050" minimum around the perimeter of the display bezel.



## Installing New Front Panel

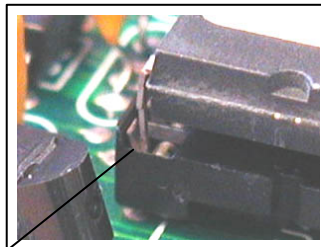
1. For continued warranty coverage copy serial number and mfg date from the old front panel to the new front panel serial number tag. Destroy and discard the old panel.
2. Remove three screws attaching the circuit board to the old front panel. Take care to not damage the long button actuators and install the circuit board onto the new panel.

Circuit board attachment screws

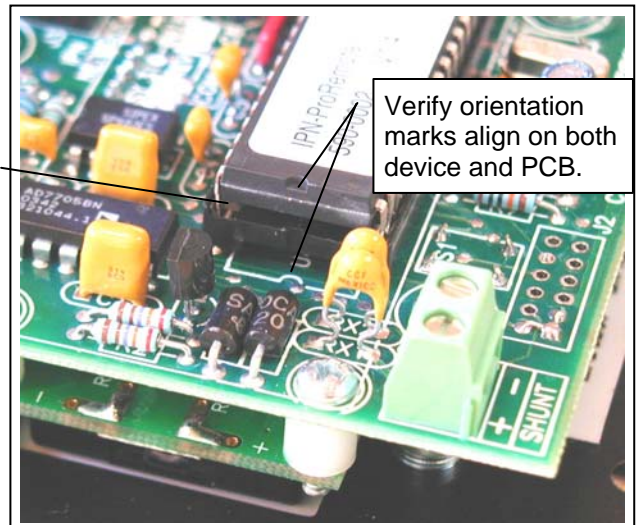


## Installing New Microprocessor

1. Units with microprocessor version V3.10 or later do not require microprocessor replacement.
2. With a small screwdriver or similar tool, carefully pry the existing microprocessor out of it's socket. Rocking the device end-to-end slightly will help.
3. Place new device lightly into socket without pressing into place. **VERIFY** CORRECT DEVICE ORIENTATION AND THAT ALL DEVICE PINS ARE PROPERLY PLACED IN SOCKET BEFORE PRESSING DEVICE INTO PLACE.
4. Carefully press device into socket with two fingers or thumbs, one on each end of device. Visually inspect device pins to confirm all pins are properly seated into socket.



Verify placement of ALL pins in socket before pressing microprocessor into place.



Verify orientation marks align on both device and PCB.