**Arduino programs for Solar Venturer prototype**

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| Title | Function | Prototype Program Name | Board | Neopixal Status Codes |
| Onshore Radio Receiver and Cayenne Sender | To receive data fields from the boat  To send that data to Cayenne via WiFi | BoatRadioRX5.ino | Feather Huzzah Exp8266, Featherwing 455mhz radio |  |
| Data Accumulator and Radio Transmitter | To receive data fields from the other CPUs  To transmit that data to the onshore Radio Receiver | BoatRadioTX5.ino | Feather MO Express Featherwing 455mhz radio | brown - started program  red - finished setup  blue - data successfully sent to shore  green - data successfuly received from shore  purple - data successfuly sent to navigate cpu  yellow - data successfuly received from navigate cpu |
| Sensors Data Accumulation | To receive data from the Voltage, Current, Temperature and Water Level Detectors  To transmit that data to the Data Accumulator cpu  To actuate relays to drive the pumps |  | Arduino Pro Mini |  |
| GPS, Compass and Motor Control | To receive data from the GPS and eCompass  To calculate the course and drive the ESCs and motors to change to the correct course | BoatGPSTest5.ino | Feather MO Express | brown - started program  red - finished setup  blue - waiting for GPS data  green - successful send of data to TX board  purple - Port  yellow – Starboard |
| BNO055 calibration | To provide the calibration numbers that can be put into the BNo)55 | Bno055calibrate | Feather MO Express | Need to copy bno055.h.old and .c.old to the correct filename |