PADL - 33 Basic Documentation:

Last updated on: 26th June 2024

IMPORTANT points about handling the PADL - 33: *(Update/change this list as features are added/removed)*

1. A 16 GB Micro SD card is the largest SD card you can use on the PADL. Any bigger will not work. Make sure SD cards are formatted to *FAT, FAT16 or FAT32.* (exFAT also works)

2. To use a serial (RX/TX) GPS on the PADL - 33 v3.0.X, you must short the pins labeled TX removal. Refer to the PADL - 33 V3.0 assembly instructions for more info.

3. **If using an OLED screen (or any other I2C device), you must use a serial GPS.** If not, your update speed will decrease and GPS will malfunction. Serial GPS has headers on TX, RX, CS, 3v3, 5v and GND. I2C GPS has headers on SDA, SCL, 3v3 and GND.

4. Meanings of the LEDs (by color):

    a. Red: Error of some kind (e.g. No SD, No GPS, BARO (barometer) errors etc.)

    b. Blue: GPS is communicating with at least one satellite.

    c. Yellow: Every time yellow flashes, the *void loop()* function has run once.

    d. Green: Programmable for your own use.

5. Before using the PADL, make sure the 5 configuration variables at the start of the PADL33_vXXX.ino file are set up for your PADL's configuration.

6. Make sure the external thermistor is connected to A3 and 3v3.

7. If you want to change the update frequency from 10 (max) to any number less than 10, then just go to the following MACROs at the top of the PADL33_vXXX.ino file and do the following:

    1. Change GPS_FREQUENCY from 10 to your desired frequency
    2. Change GPS_DATA_DELAY and DATA_DELAY to (1 / frequency) * 1000
        - Ex: If you want to change the update frequency to 1 Hz, change GPS_FREQUENCY from 10 to 1, then GPS_DATA_DELAY and DATA_DELAY would then be (1 / 1) * 1000 which equals 1000.

Changelog:

- 25th June 2024 (**Ver 3.0.1**): Added OLED functionality, removed all instances of the *Safestring* library, and replaced it with generic C++ "*String*" calls. Also, added a column which tells us whether GPS is an I2C or not.