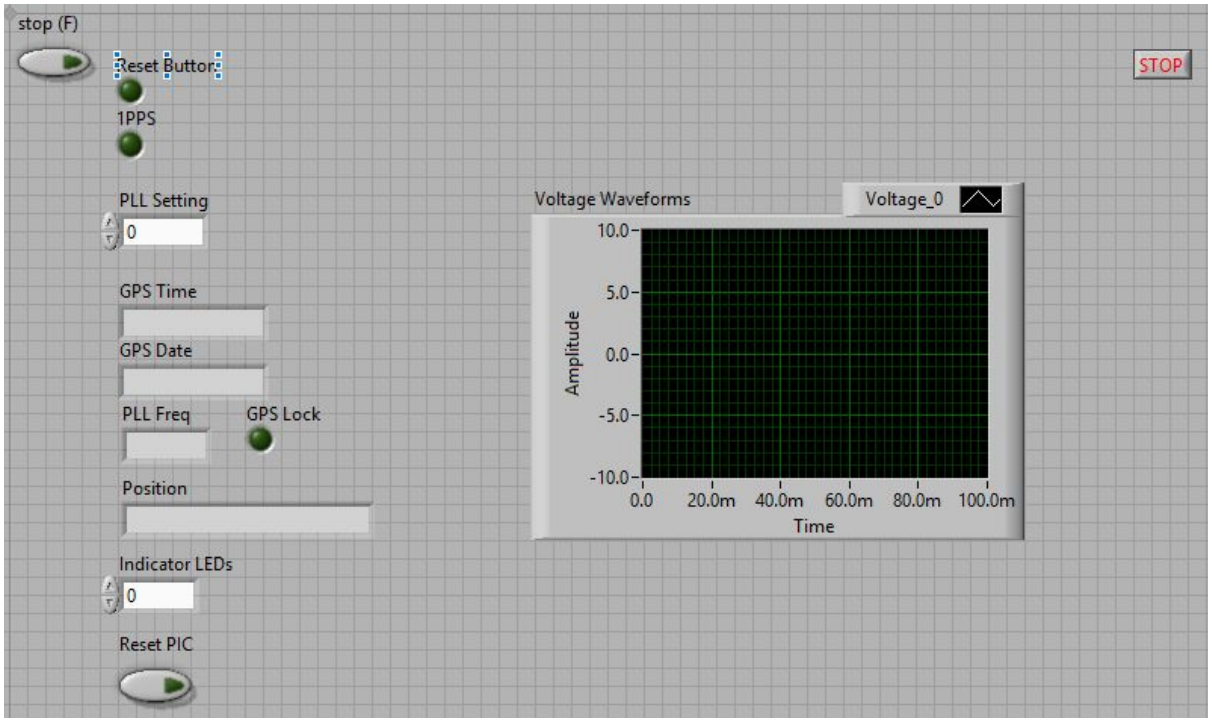
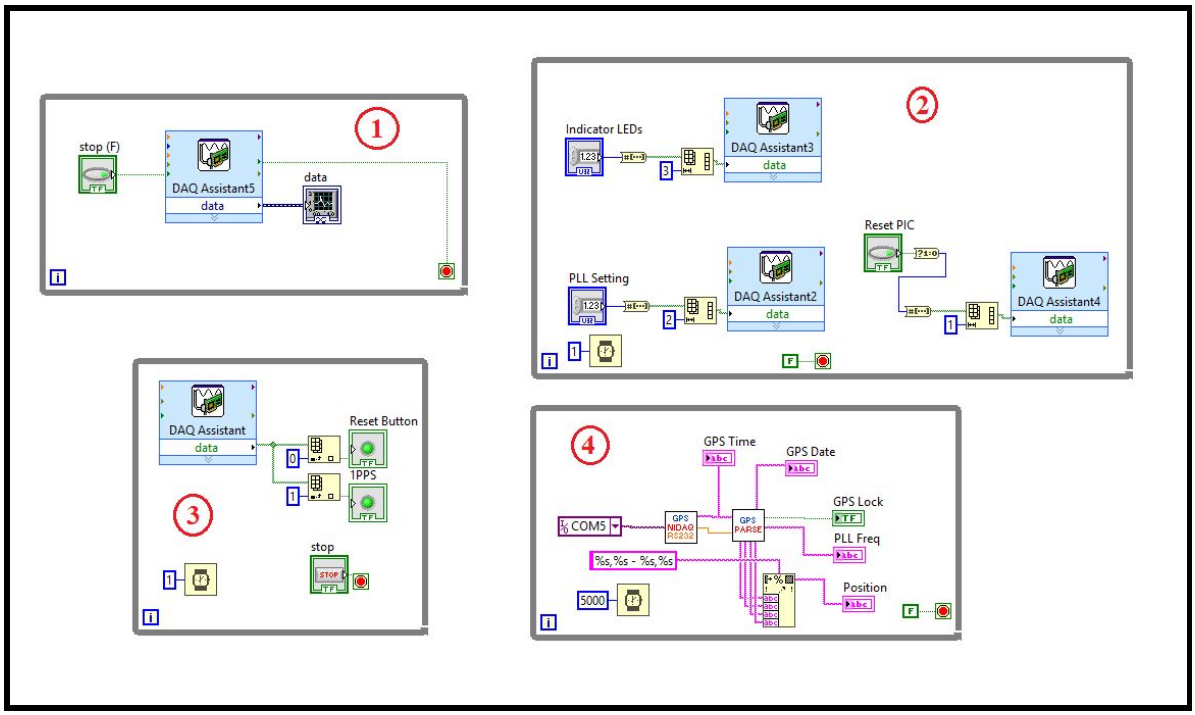


The VI 00 PMU Tester is used to test if the GPS, PIC and power supplies have been set up correctly. For the VI to work, the PCB board must be populated, PIC, GPS, power supplies and USB-6009 OEM all plugged in and in operating order. The VI takes in data from the GPS and USB-6009 OEM and outputs various variables useful to see if the setup is correct. It also outputs the voltage waveforms found by the USB-6009 OEM.



The VI block diagram is split into 4 parts, which have the following functionality:

1. The first loop uses a DAQ assistant to create a DAQmx task. The task records the voltages found on the USB-6009 OEM. The voltage values found are then sent to the front panel.
2. The second while loop has three parts.
    a. The first part, labeled “Indicator LEDs” takes the number LEDs inputted by the user, and converts that number to a boolean array of size 3. Therefore, the array can represent boolean numbers 0-7. This array is then sent to create a DAQ task through the DAQ assistant.
    b. The second part, labeled “PLL Setting” performs the same operation as the “Indicator LEDs” by making a boolean array from a number, except of size 2. This array can therefore represent numbers 0-3. The array again is sent to the DAQ assistant to create a DAQ task of the data.
    c. The last portion, labeled “Reset PIC” creates a single boolean array to dictate if the Reset PIC indicator has been pushed.
3. The third while loops uses the DAQ assistant to create a task that finds digital input values based on the Reset Button and 1PPS. The values come from an analog-to-digital conversion based on pins from the USB-6009 OEM. The output of the task is sent to the front panel as boolean values.
4. The final loop essentially operates like the VI 31 GPS Interrupt RS2323 Read. The loops reads the information from the GPS signal, parses the signal, and outputs various data to the Front Panel.