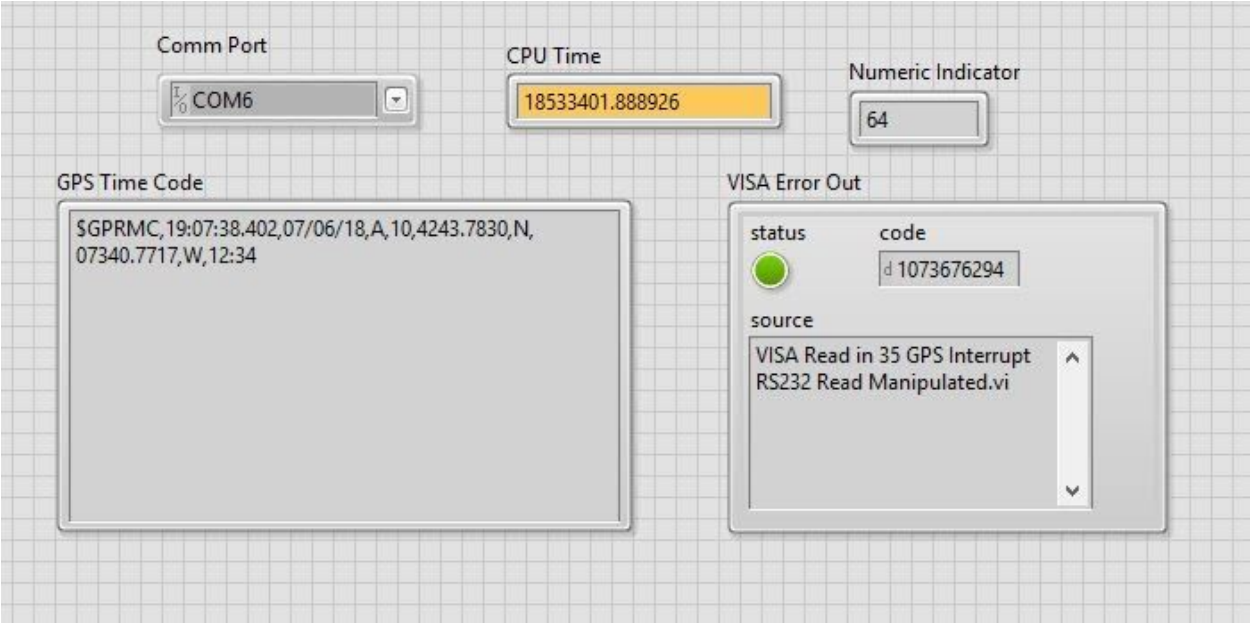
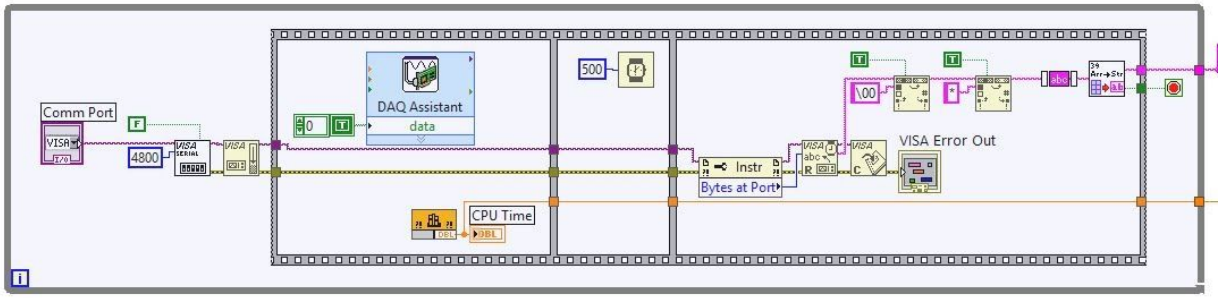
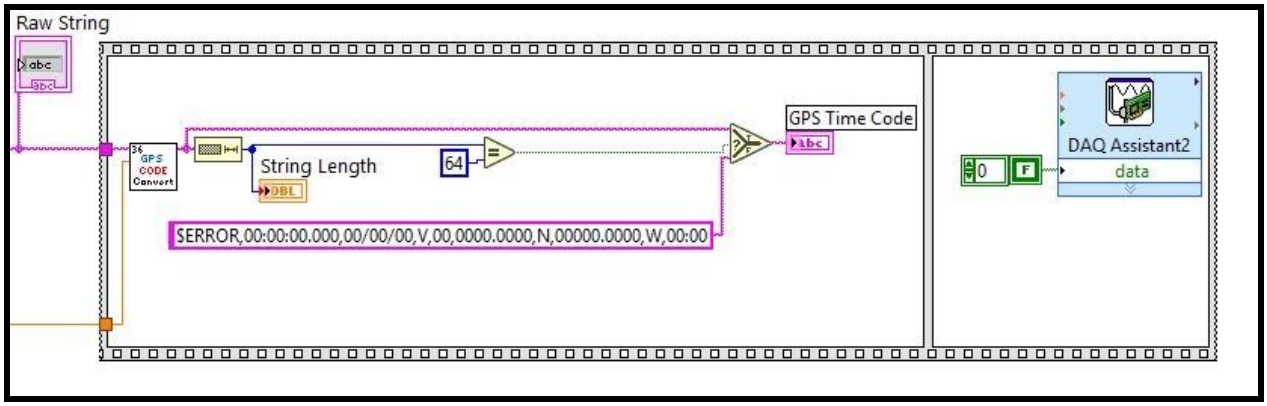


35 NEW GPS Interrupt RS232 Read functions similarly to 31 GPS Interrupt RS232 Read, by taking in data from the Garmin GPS 18x and outputting the GPS Time Code, to be used with the 00 Main VIs. The VI takes a port value, which the user must manipulate and outputs the CPU time, GPS Time Code, the length of the the GPS Time Code, used for debugging, and any errors.



The VI starts in the same way as 31 GPS Interrupt RS232, by using the Garmin GPS 18x. The data is turned into a string, chopped up, and then sent to the sub VI on the far right, 39 Array to String. However, one must note two differences. The first is that this entire first section of the VI is in a While loop. The Garmin GPS 18x returns different types of GPS codes, with various formats and types of information. More info on each format can be found at: http://www.gpsinformation.org/dale/nmea.htm. Along with the different data formats, several iterations of the data are sent as the raw string, in order to ensure that there is at least one complete string. Often, at least one or more of the GPS strings are incomplete and unusable. The While loop assures that the string returned from 39 Array to String is in the correct format, with the correct data. If not, the While loop restarts the VI, getting new information from the

Garmin GPS 18x. The second difference is that the CPU time is sent through the the VI, and used in the next portion.



The second part of the VI starts by outputting the raw GPS string. That string is then sent to 36 GPS String Manipulation, which returns the string that the rest of the OpenPMU VIs are expecting. If this final string is the correct length, it is sent forward as output as the GPS Time Code.