Real Time Code Viewing DSP variables and waveforms while running in real time is necessary to debug code and compare operation with simulation predictions. Simulation and real time testing go together hand in hand to bring a design to market. A small serial communications module along with code that translates the interface into instructions has been developed. This is by no means a real time operating system; instead it's a bare bones approach to get to the needed data. The ability to read and write data in DSP RAM is the key communications capability. Built on that are a set of semaphores sent from out side of the DSP. The DSP then tests certain memory and when set it executes predetermined code and sends data back.

- Run a Transfer Function Analysis
  - The DSP generates sine and cosine waves
    When the TFA semaphore is set. The DSP
    accumulates the sum of products of
    sine*var and cose*var. When done, it
    Sends the result…..
- Get time domain data.
  - Collects data delayed by n samples after
    a timer interrupt, advancing n until the requisite
    number of samples are taken, then sends…
- Get a RAM location
- Set a RAM location

This approach is basically a state machine where the state is defined by a set of memory locations with state change commands sent by the outside controller and DSP code.

TODO: UART DSP interface to RS232 connection
Scope scripts too send and receive data
DSP code to execute Scope commands