MCP23S08 Datasheet Clarification (At least I hope it clarifies)

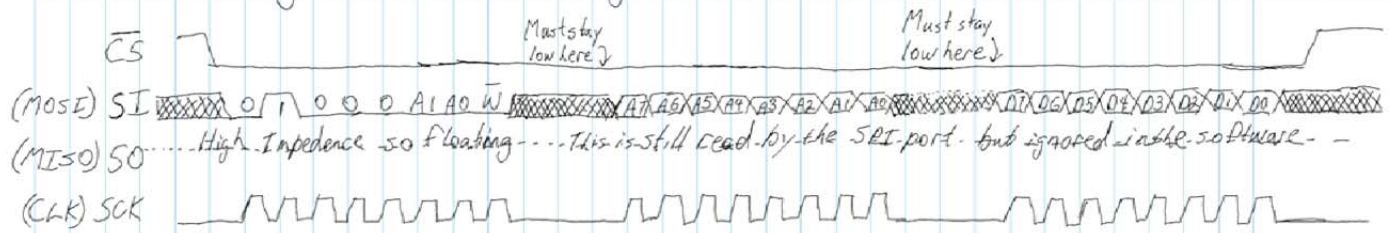
Well, I wanted to modify MicroChip's MCP23S08 datasheet by removing the pages that did not pertain to this exercise, but MicroChip "Secures" their datasheet's pdf files so I am not able to remove unwanted pages from the document. So instead I will list off the pages that you should focus on in this datasheet. First off the datasheet explains both the MCP23008, which is an I2C device, and the MCP23S08, which is a SPI device. We are interested in the SPI device so any references in the datasheet to the I2C bus ignore. **Also** ignore all references to generating interrupts as this assignment will not deal with interrupt generation.

Pages to read in the MCP23S08 datasheet http://coecsl.ece.illinois.edu/ge423/datasheets/MCP23S08_datasheet.pdf :

1, 3, 5, 6, 7 (only bottom), 8 (only SPI figures), 9, 10, 11, (12, 13 and 14 only that to disable functionality set all bits to 0 for all three of these registers), 15, 16, 19, 20, 28 (bottom), 29.

The SPI data transmit and receive time graphs are very poor in this data sheet. There is one figure that I found in an application note http://coecsl.ece.illinois.edu/ge423/datasheets/MCP23X08_AppNote_AN972.pdf page 4 figure 7,that gives some idea about transmitting and receiving data to and from the MCP23S08 but still it is not complete. I have not used this chip so I am making a few guesses here, but from what I have read my best guess at the time graphs is below. I will order a few of these chips and if anyone would like to use it in their HW project we can figure out if I am right or not. Even if I am wrong, these graphs indicate how I would like you to write your C code to communicate with the MCP23S08.

Writing to a MCP23508 Register



Reading from a MCP23508 Register