

# ECEN 3002 – Video Project, Part Two

## Part Two, due Thursday, February 25<sup>th</sup>, end of day

### 50 points

For part two, create a new version of your pixel generator that draws two boxes on the screen. The pushbuttons and switches will be used to move the boxes and modify the colors of the boxes.

1. Draw two boxes on the screen of different sizes, with different initial locations.
2. If your current system reset uses KEY[0], replace KEY[0] with SW[0].
3. Move the boxes up using KEY[2], down using KEY[2], left using KEY[3], and right using KEY[0]. If SW[1] is on, move Box1. If SW[2] is on, move Box2. If both switches are on, move both boxes.
4. Control the speed of the movement using SW[9]. Slower when SW[9] is off, faster when SW[9] is on.
5. Use SW[8] to change the color of Box1, SW[7] to change the color of Box2.

Have some fun with this, the details are purposefully vague so you can experiment with whatever you like. For example, how are you going to handle when one box crosses in front of the other box?

Hint: Use the vertical synch pulse to trigger the movement. Whenever a vertical synch occurs, move the box position a small amount (5 pixels, 10 pixels, feel free to experiment).