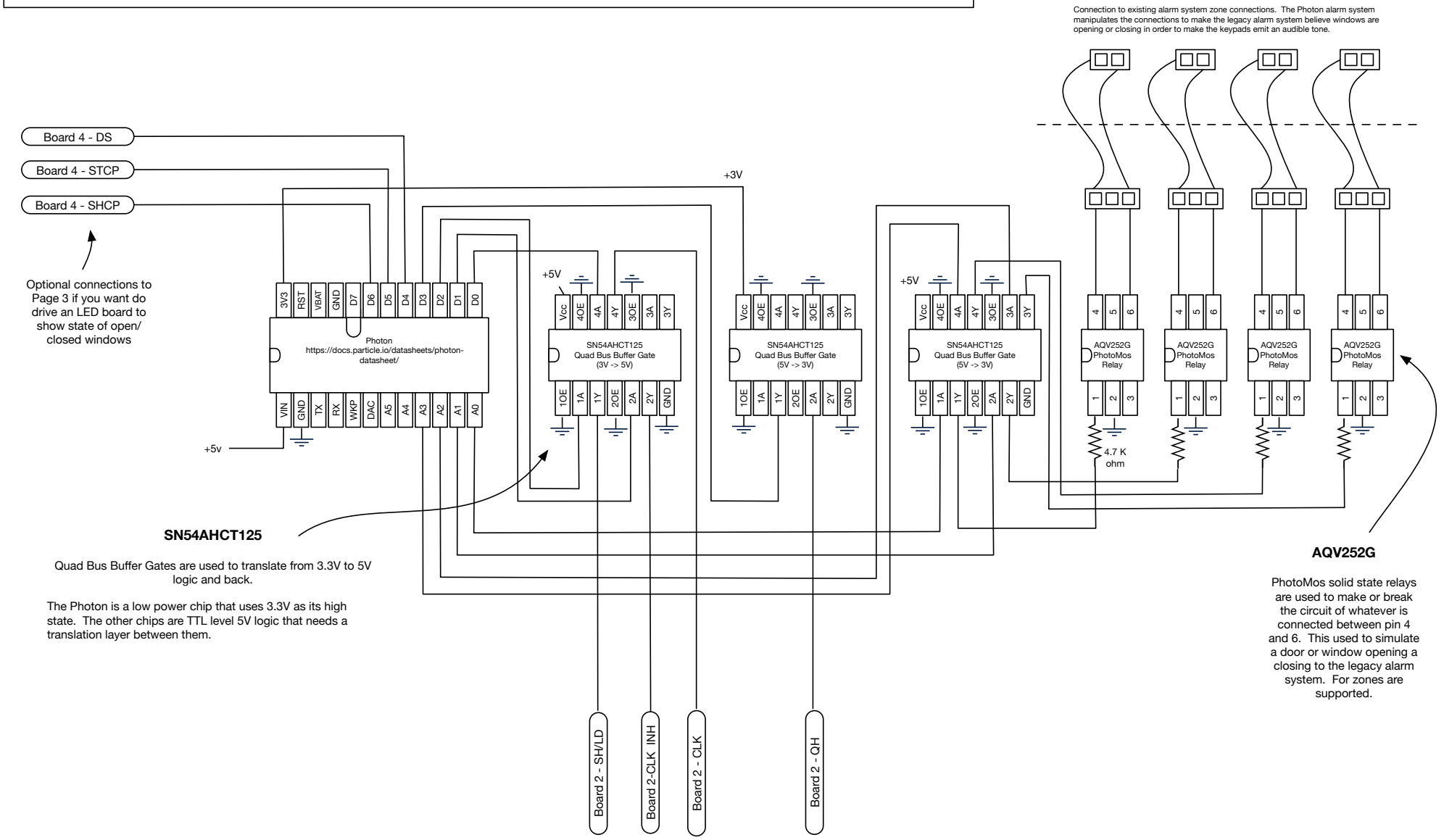
Photon Based 48 Channel Alarm System
Main Logic Board, Level Shifters, Photo Relay Passthrough
Board 1

T.Vernon
8/8/17



Photon Based 48 Channel Alarm System
Zone Input Shift Register Board
Board 2

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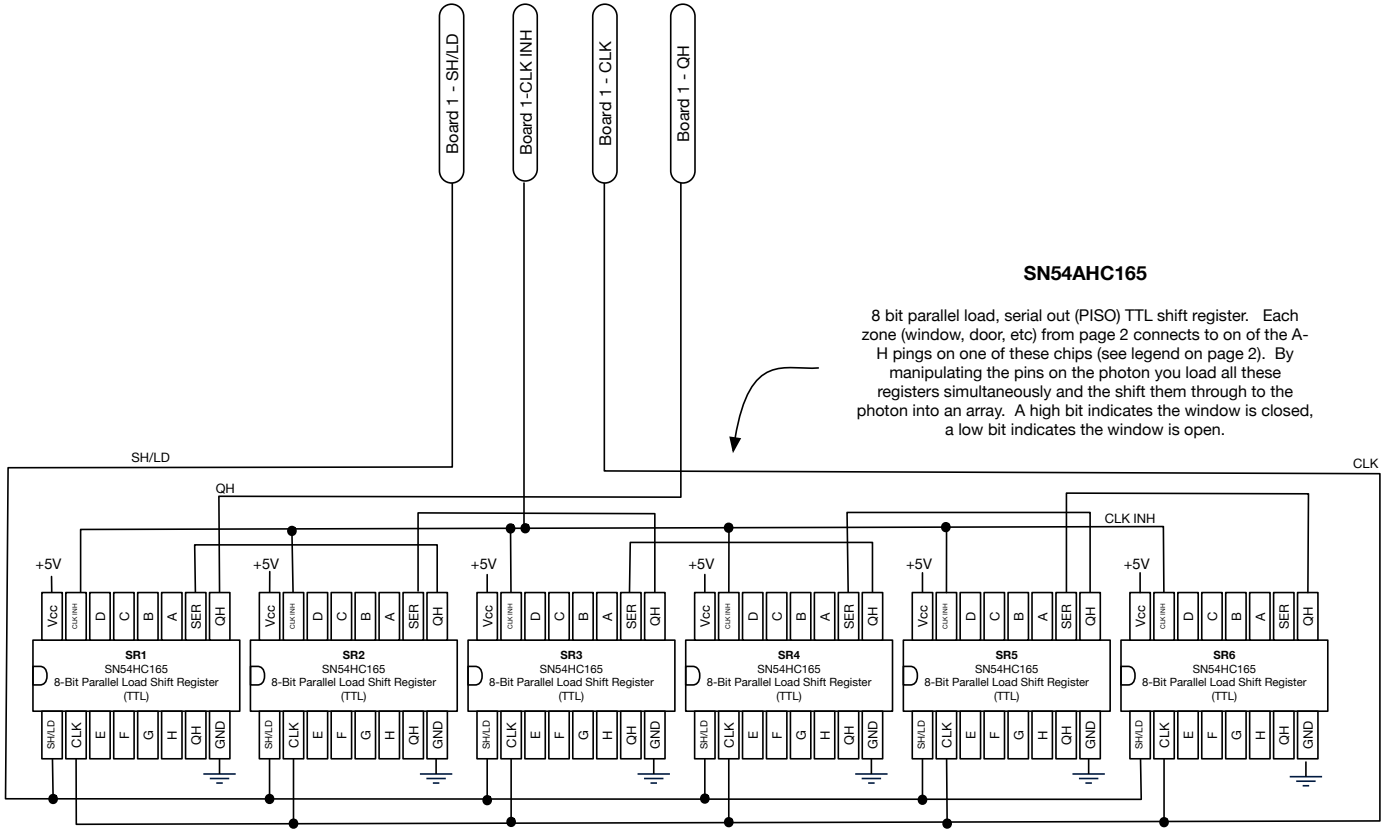

Photon Based 48 Channel Alarm System
Zone Input Header Board
Board 3

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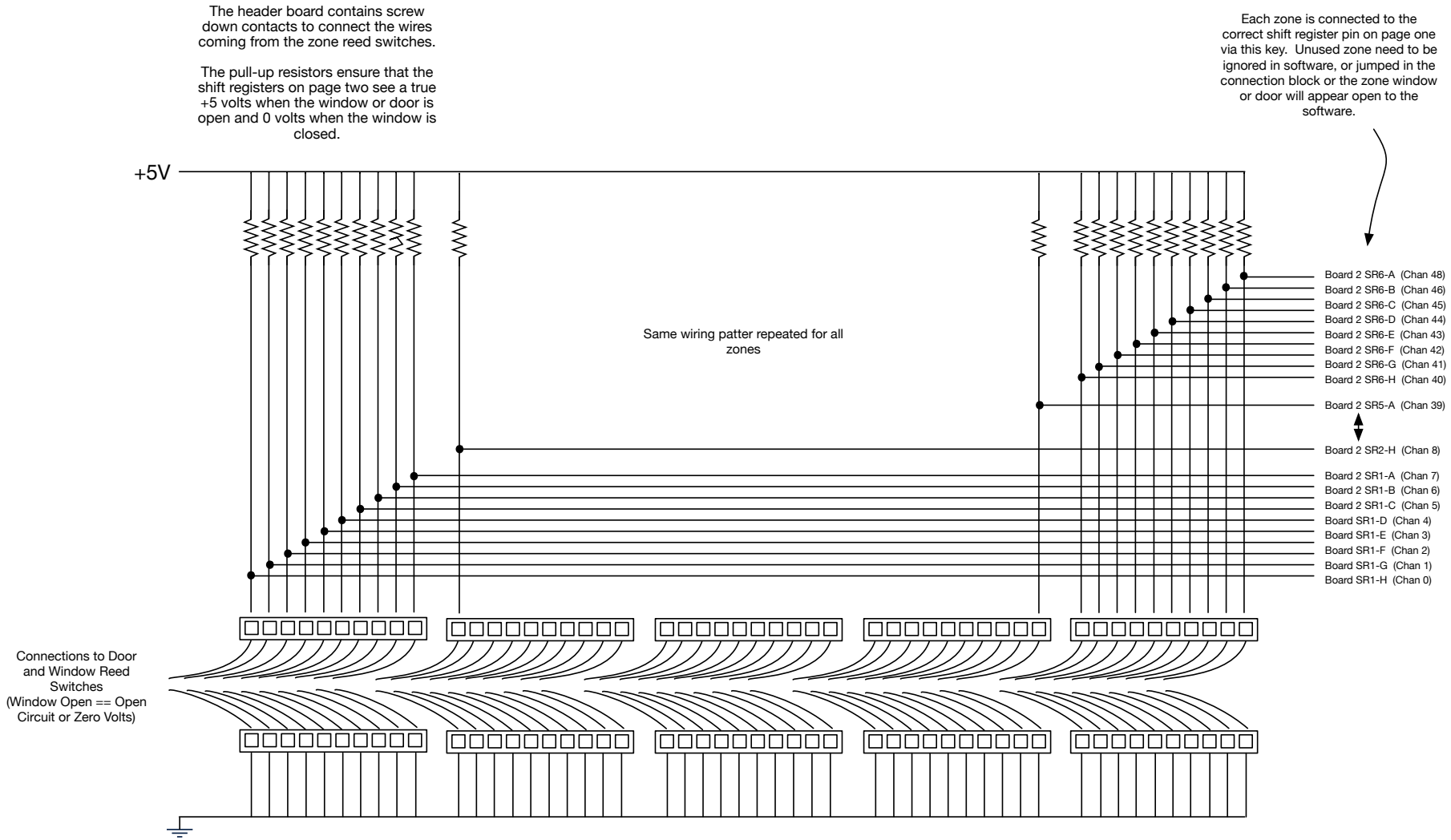

Photon Based 48 Channel Alarm System
LED Zone Display Board (Optional)
Board 4

T.Vernon
8/8/17

SN74HC595

8 bit serial load, parallel out TTL shift register. 48 bits are shifted into the register cascade via pins on the photon by way of the level converter Quad buffer gate. Each bit represents zone (window, door, etc). I used green LED's and shift one's into the register to indicate that the window is closed and lighting the green led. shifting a zero into will turn off the led indicating the window is open. One could reverse the logic using Red LED's or Yellow LED's and display positive indication of a window open rather than closed.

SN54AHCT125

Quad Bus Buffer Gates are used to translate from 3.3V to 5V logic and back.

This Chip translates 3.3V logic to 5V logic to load the shift registers to light the LED's

Optional connections from the Photon on page page 1 to connect to this LED display board.