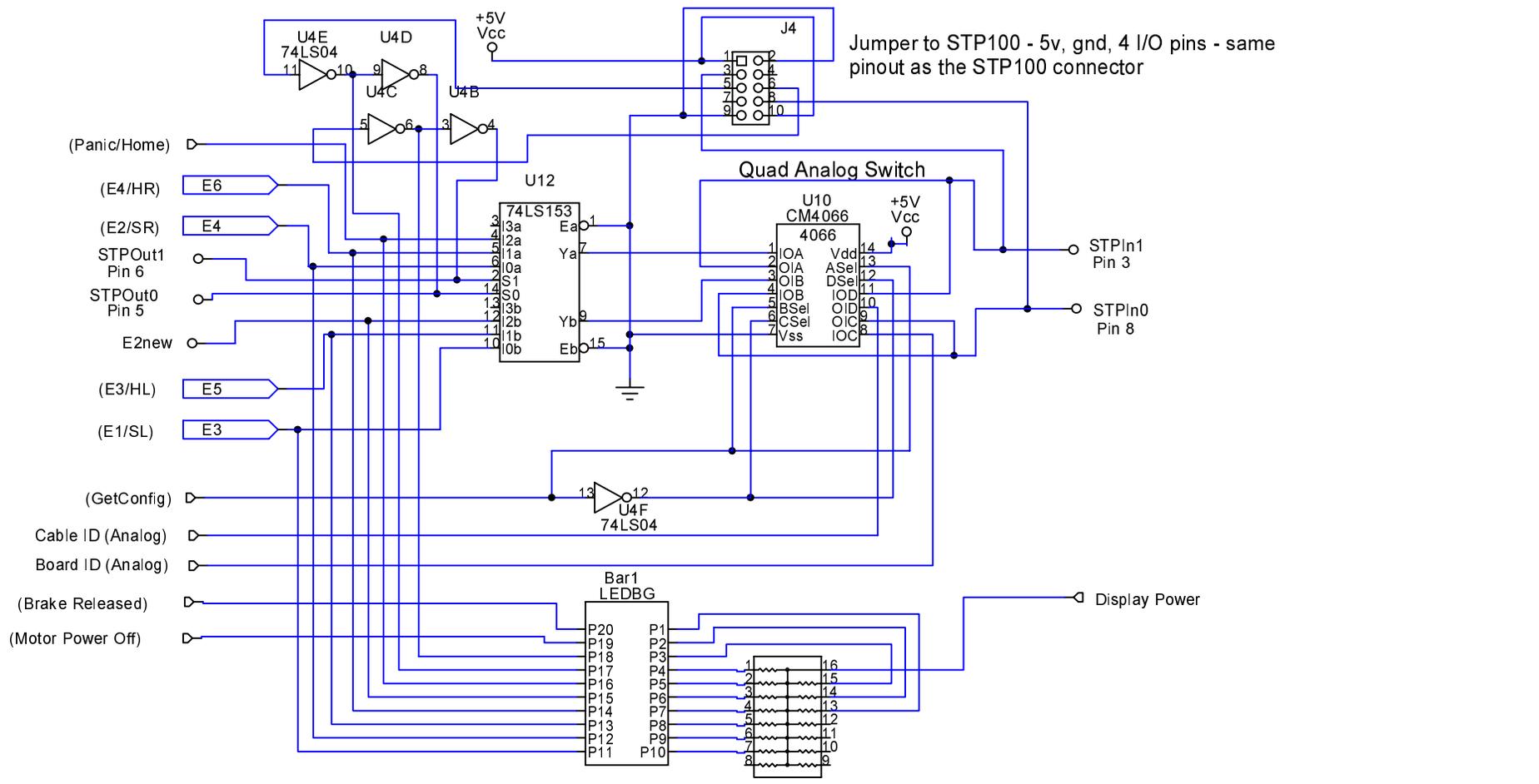
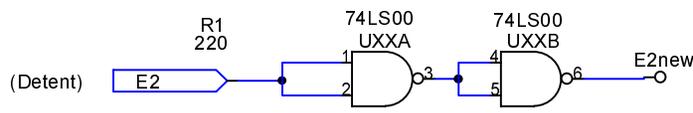


Configuration Decode and Display - Latches new configuration from either the comparitor output or the manual jumpers when the clock line goes low.

Mimir I/O Motherboard (to host Pontec STP100 stepper motor driver board)	
D. Clemens IAR@BU Mod by Josh Shiode	
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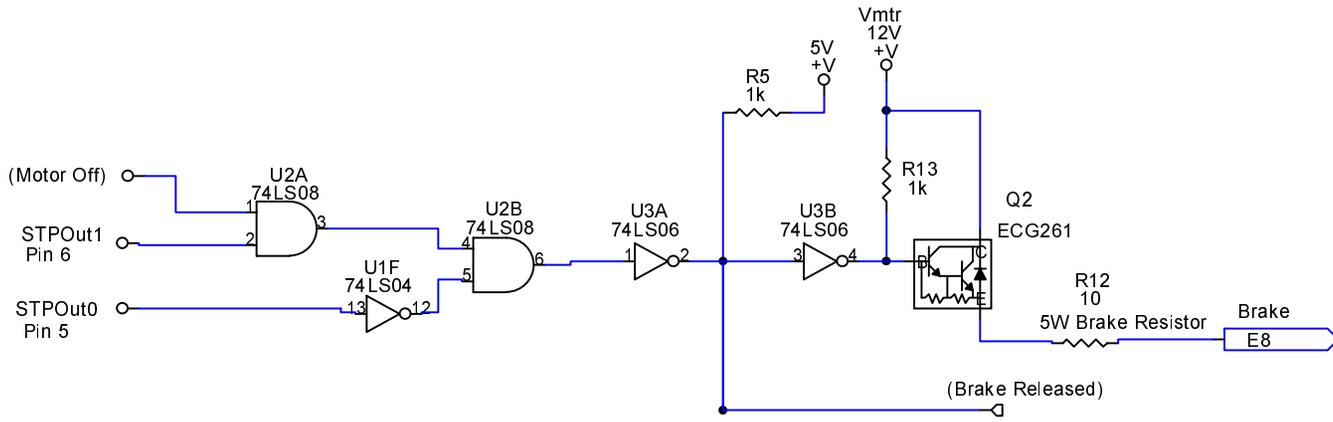
Jumper to STP100 - 5v, gnd, 4 I/O pins - same pinout as the STP100 connector



Detent Current Buffering for small reed switches

STP Output	Mode	Returned Values
Out1	Out0	In1 In0 Signal type
1	1	Get Config Cable ID Board ID *Analog*
1	0	Move Detent Panic/Home TTL
0	0	Read A E1/SR E2/SR TTL
0	1	Read B E3/HL E4/HR TTL

Data Encoding and Multiplexing - STP100 Pins 5, 6 select which one of four lines get to each of the STP100 input pins.



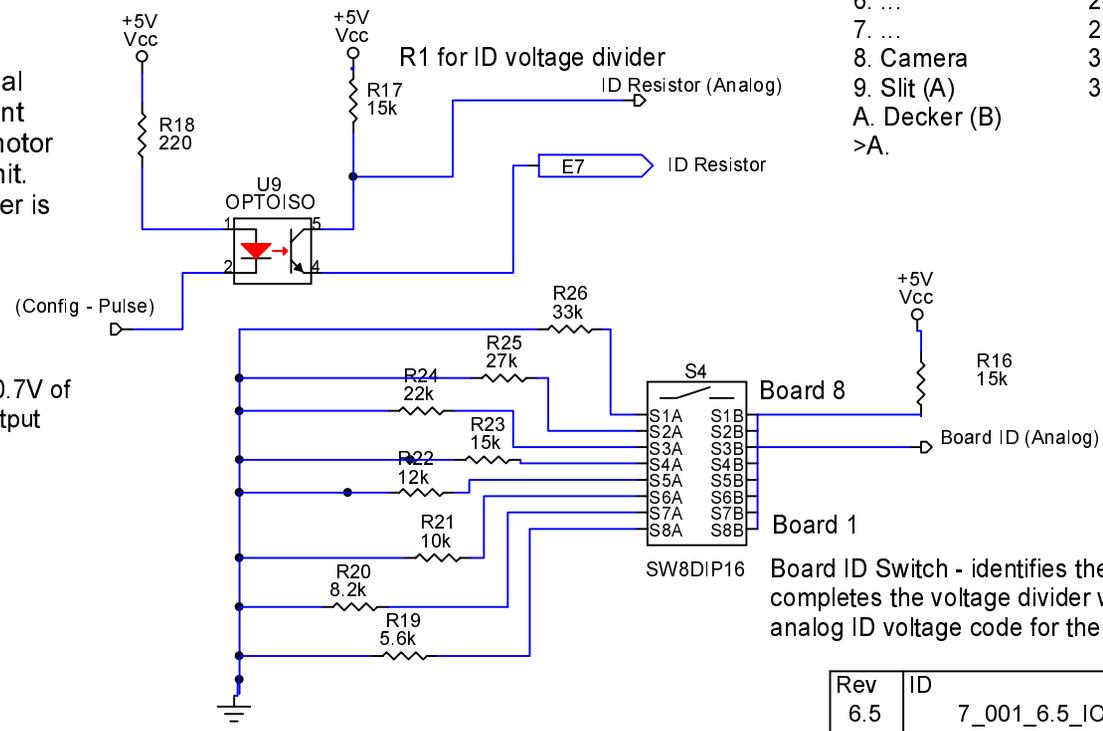
Identification resistor on motor unit. Unique for each different motor system.

If the STP100 issues a "Move" mode to the board by setting Out1 to High (Logic "1") and Out2 to Low (Logic "0") *and* the Motor Off signal is not asserted, then this logic will send power to the brake, causing the brake to release.

Unit	Vedge	R2
0. fail	0V	
1. HWP	0.9V	6.01k
2. Polarim.	1.2V	7.92k
3. FW1	1.5V	10.39k
4. FW2	1.8V	13.73k
5. FW3	2.1V	17.71k
6. ...	2.4V	22.55k
7. ...	2.7V	29.86k
8. Camera	3.0V	41.39k
9. Slit (A)	3.3V	59.3k
A. Decker (B)		94k
>A.		230k

Read Configuration Driver - Config Signal energizes optoisolator, which puts current through resistor located in cryostat on motor cable. Unique resistor for each motor unit. When config signal not present, no power is dumped into cryostat.

optoisolator produces 0.7V of voltage drop across output



Board ID Switch - identifies the board by eye and completes the voltage divider which reports the analog ID voltage code for the board.

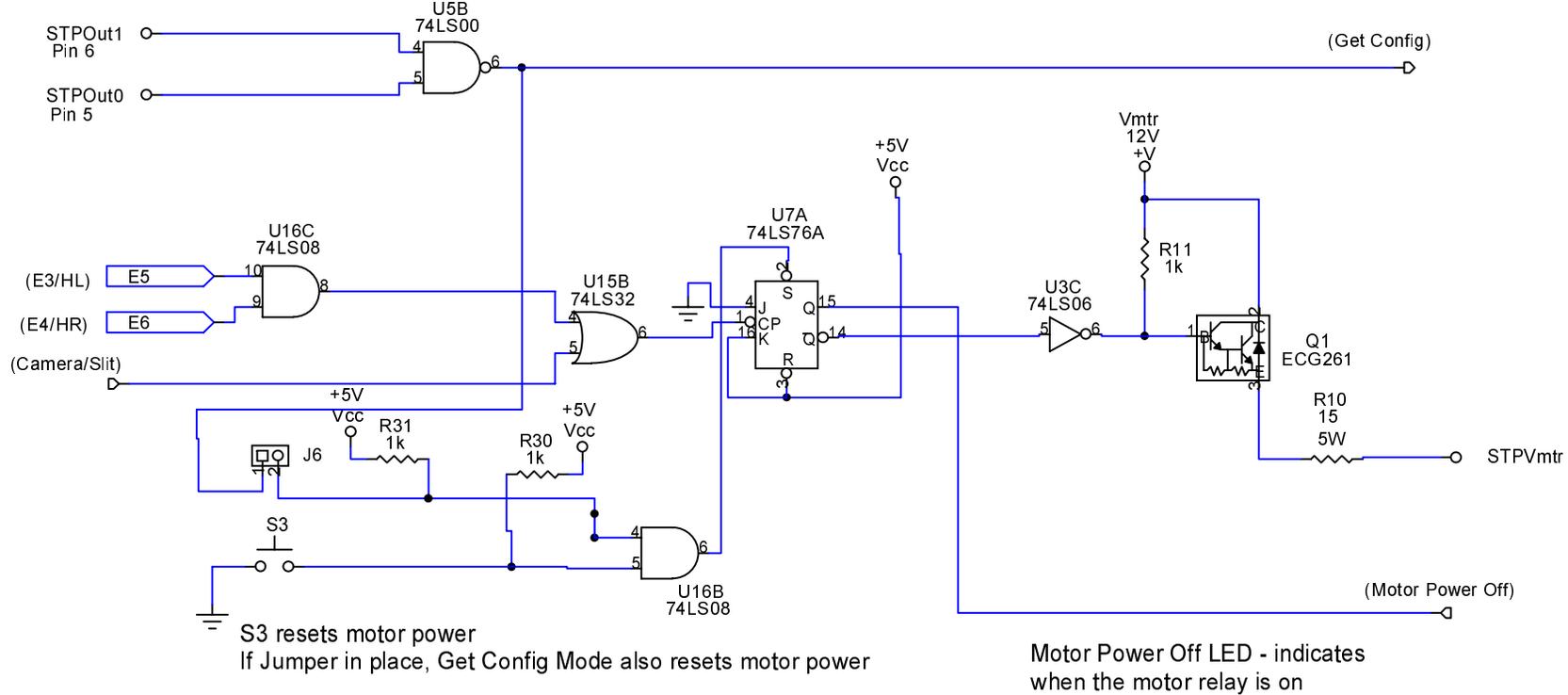
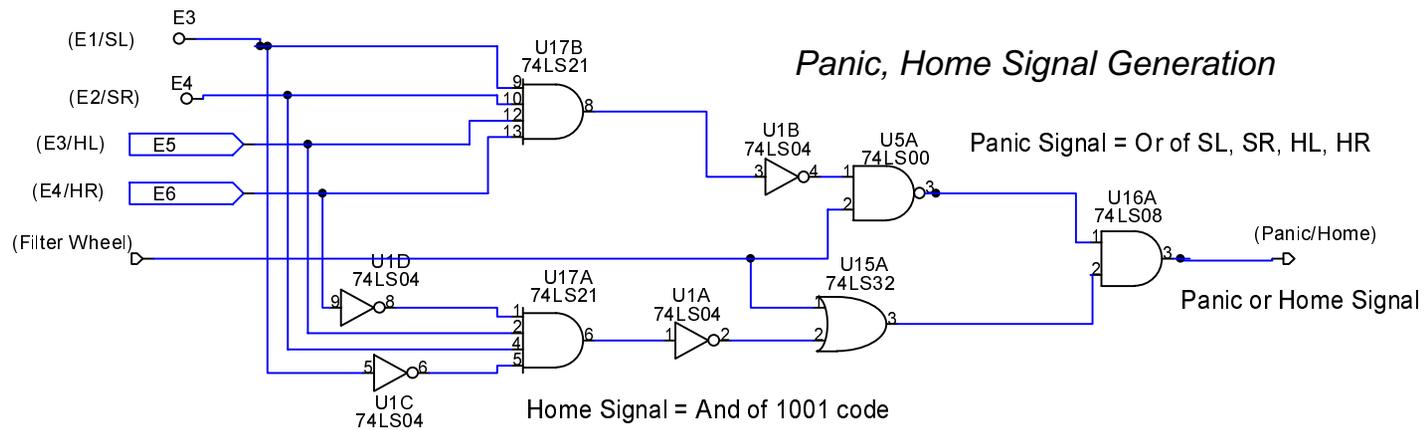
F

G

H

I

J



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1

2

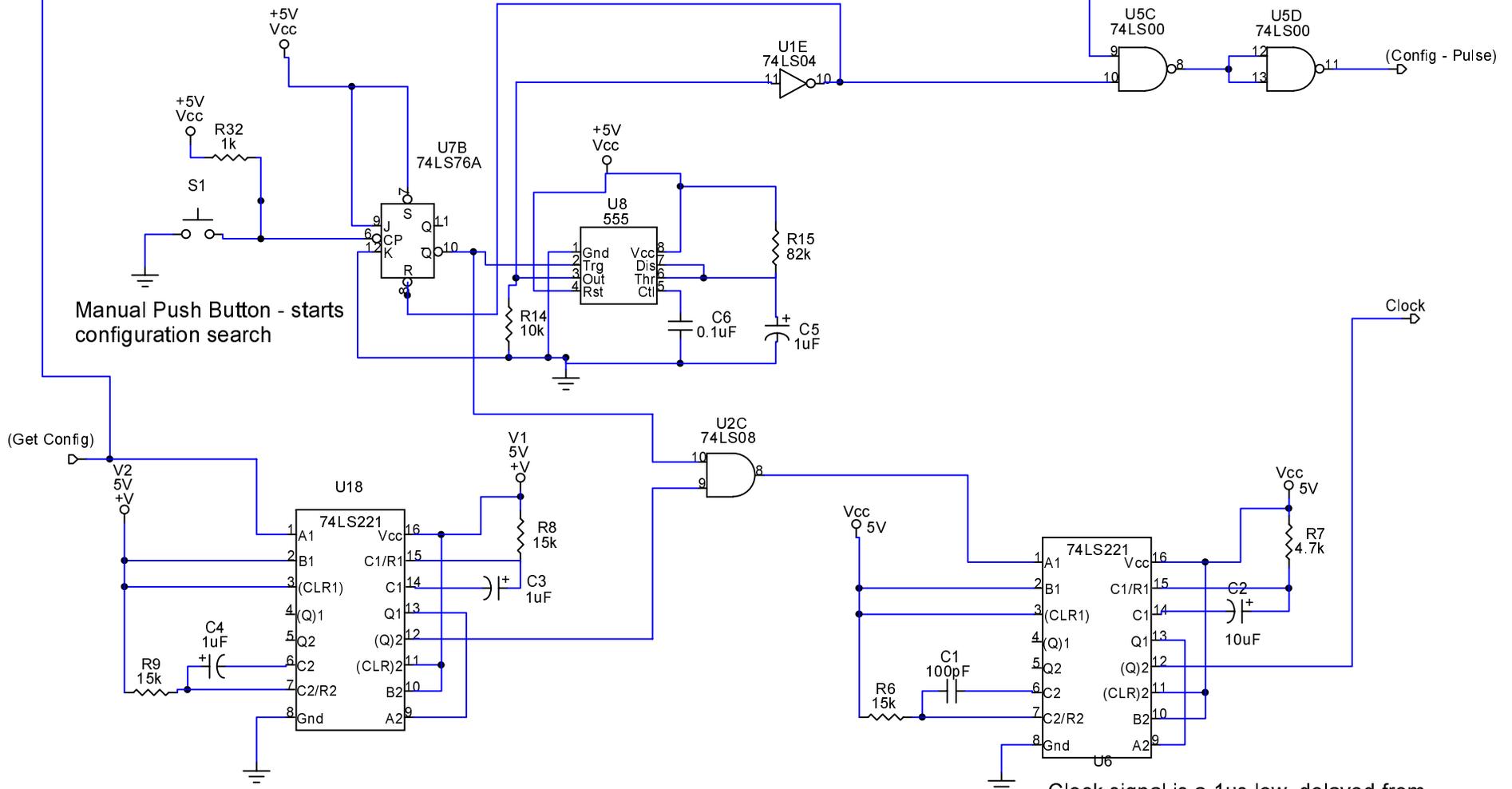
3

4

5

6

Manual Configuration signal is 100ms long (Low Active), STP100 generated config signal is valid as long as the Config command is valid. The 0804 ADC gets only a single start convert pulse whether manual or STP100 generated.



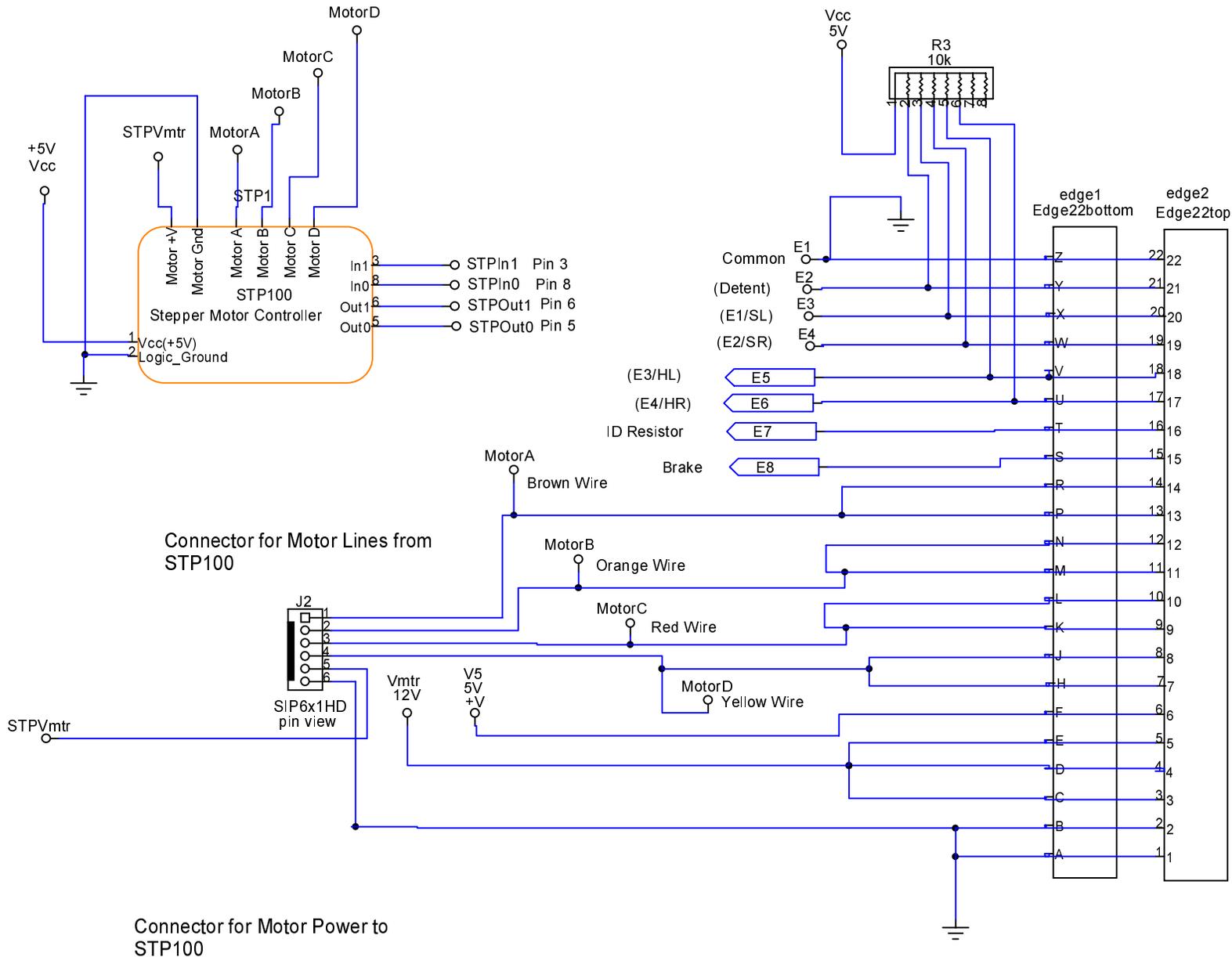
Manual Push Button - starts configuration search

One Shot for Get Config Signal
Generates 10ms low after 10ms Delay
For Triggering ADC Convert.
After 20ms, allows manual search again

Clock signal is a 1us low, delayed from config sig start by 30ms.

Config and Clock Signal Generation

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