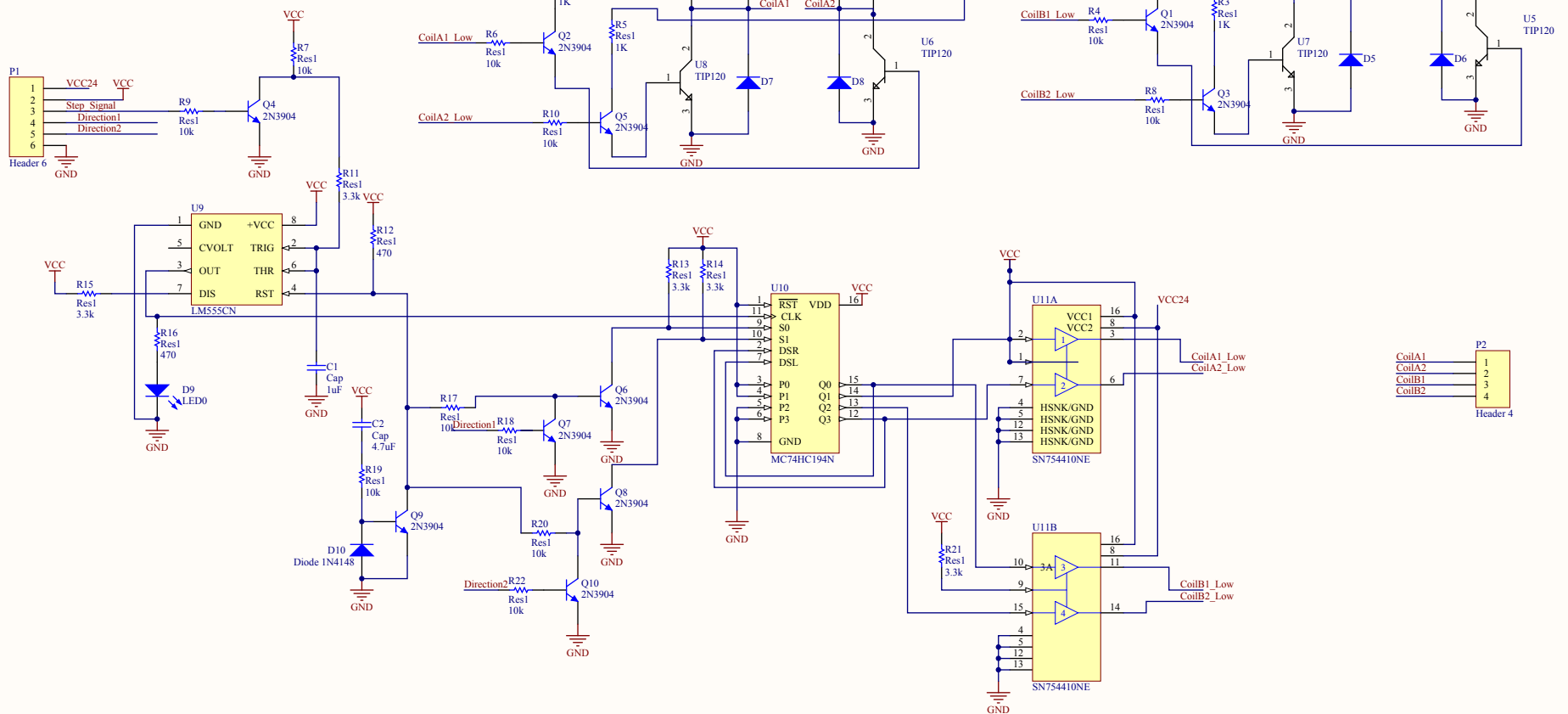


Directions

When Step is high it moves, and when Direction is High it goes in that direction
Tie other direction to ground to make sure



This Motor Controller was outlined heavily from <http://home.cogeco.ca/~rpaitley4/Bipolar.html>

Engineer: R. Paisley, L. Balling	Title: Bi-Polar Stepper Motor Driver	U of U Computer Engineering	Smart Home
Drawn By: Levi Balling	Size: B Number: 1 Revision: 1 Project: Smart Home	50 S Central Campus Dr.	
Checked By: Dell Hanks		Rm. 3280 MEB	
Date: 8/17/2012		SLC, UT 84112	
Time: 11:34:37 PM	File: MotorControllerSchDoc		
Sheet 7 of 13	Website: www.eng.utah.edu/~lbaling/SmartHome		

Bill of Materials

Bi-Polar Stepper Motor Driver

Source Data From: MotorControllerProject.PrjPCB
Project: MotorControllerProject.PrjPCB
Variant: None

Creation Date: 8/17/2012 11:34:42 PM
Print Date: 17-Aug-12 11:34:45 PM

Footprint	Comment	LibRef	Designator	Description	Quantity
RAD-0.3	Cap	Cap	C1, C2	Capacitor	2
DO-201AD	Diode 1N5408	Diode 1N5408	D1, D2, D3, D4, D5, D6, D7, D8	3 Amp Medium Power Silicon Rectifier	8
LED-0	LED0	LED0	D9	Diode	1
DO-35	Diode 1N4148	Diode 1N4148	D10	Typical INFRARED GaAs LED	1
HDR1X6	Header 6	Header 6	P1	High Conductance Fast Diode	1
HDR1X4	Header 4	Header 4	P2	Header, 6-Pin	1
2N3904	2N3904	2N3904	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10	Header, 4-Pin	10
AXIAL-0.3	Res1	Res1	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22	NPN General Purpose Amplifier	22
TO-220	TIP126	TIP126	U1, U2, U3, U4	Resistor	4
TO-220	TIP120	TIP120	U5, U6, U7, U8	TIP126 -PNP	4
N08E	LM555CN	LM555CN	U9	NPN 60V -5A TO-220	1
648-06	MC74HC194N	MC74HC194N	U10	Timer	1
NE016	SN754410NE	SN754410NE	U11	4-Bit Bidirectional Universal Shift Register	1
					57

Approved	Notes