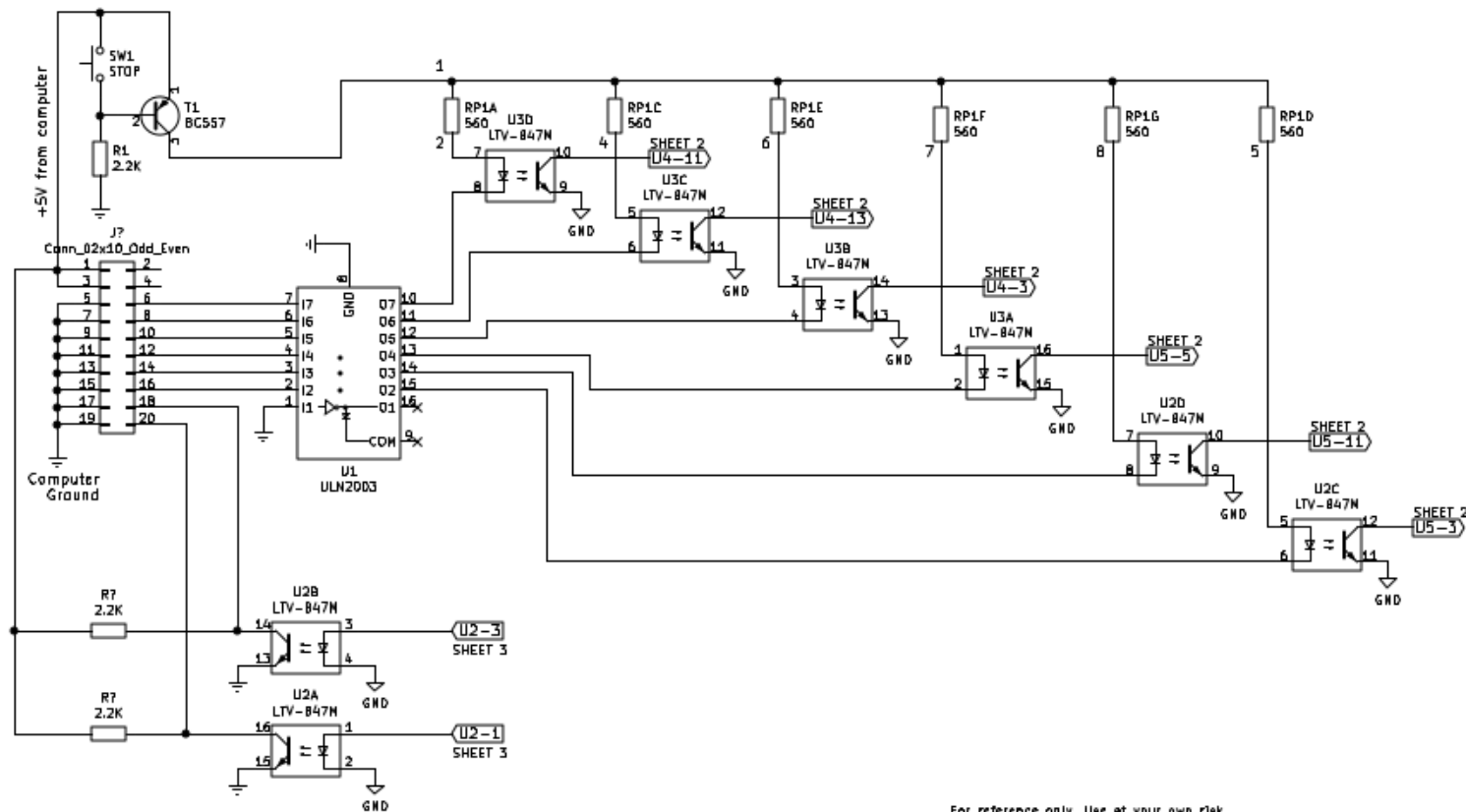


Component designations used where visible.
IC designations arbitrary

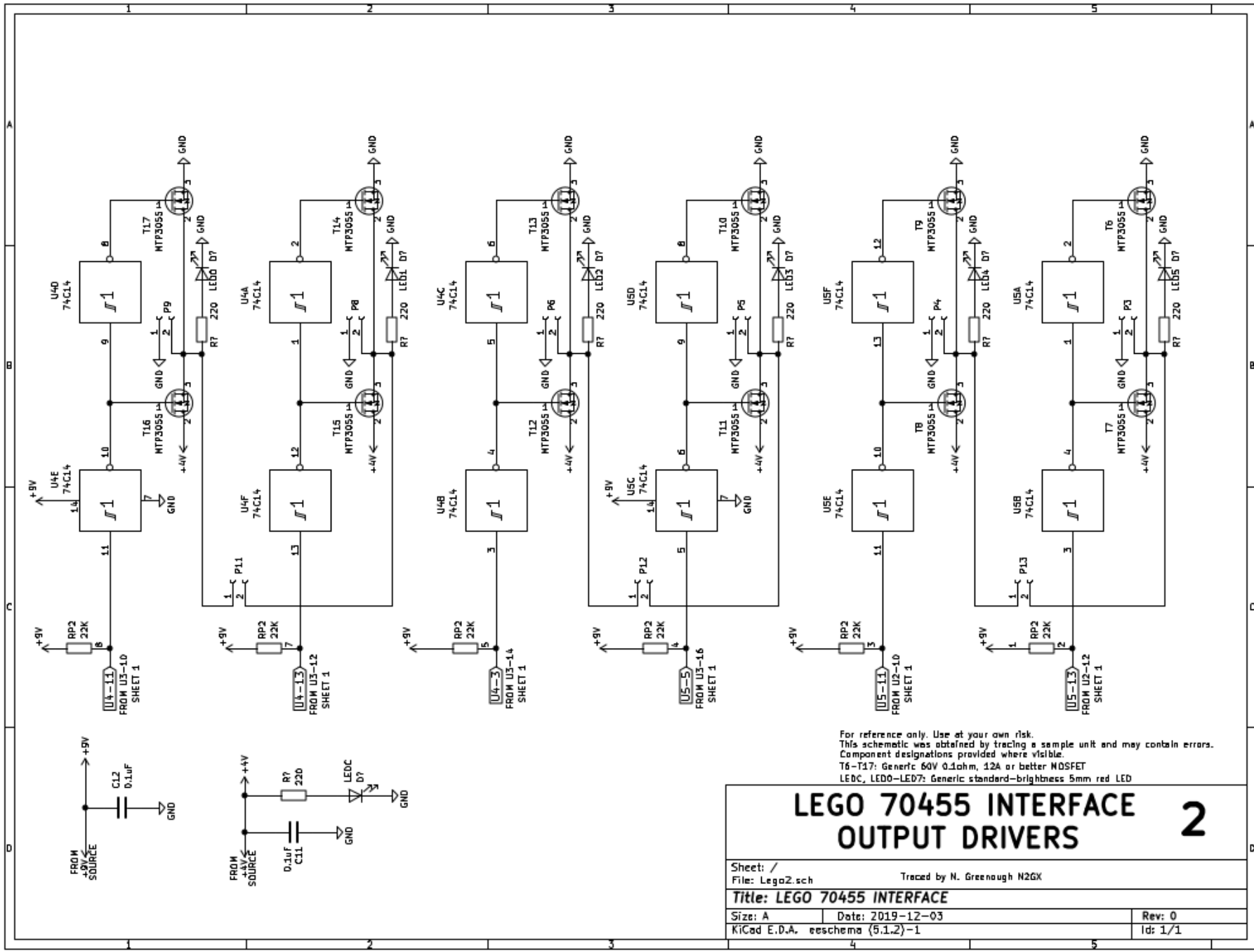
LEGO 70455 INTERFACE		
Major Component Locations		
N. Greenough	Rev 1.0	Page 5 of 5
	12/3/2019	



NOTE: Computer ground \perp and circuit ground \downarrow are separate.
Do NOT connect together. GND

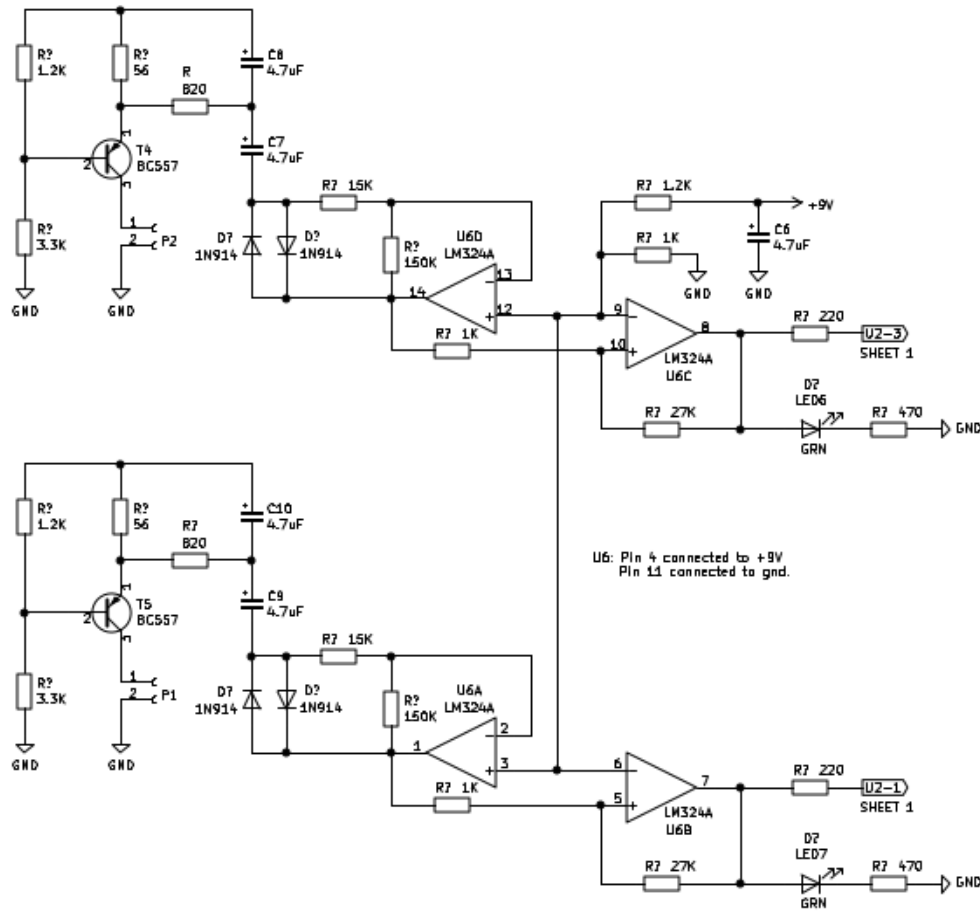
For reference only. Use at your own risk.
This schematic was obtained by tracing a sample unit and may contain errors.
Component designations provided where visible.
U2, U3: Generic quad optocoupler, LTV-847 typical
T1: Generic PNP transistor; 2N3906, 2N3905, 2N2907, many others OK

LEGO 70455 INTERFACE			1
COMPUTER I/O			
Sheet: /		Traced by N. Greenough N2GX	
File: Lego1.sch			
Title: LEGO 70455 INTERFACE			
Size: A	Date: 2019-12-03	Rev: 0	
KiCad E.D.A. eeschema (5.1.2)-1		Id: 1/1	



For reference only. Use at your own risk.
 This schematic was obtained by tracing a sample unit and may contain errors.
 Component designations provided where visible.
 T6-T17: Generic 60V 0.1ohm, 12A or better MOSFET
 LEDC, LED0-LED7: Generic standard-brightness 5mm red LED

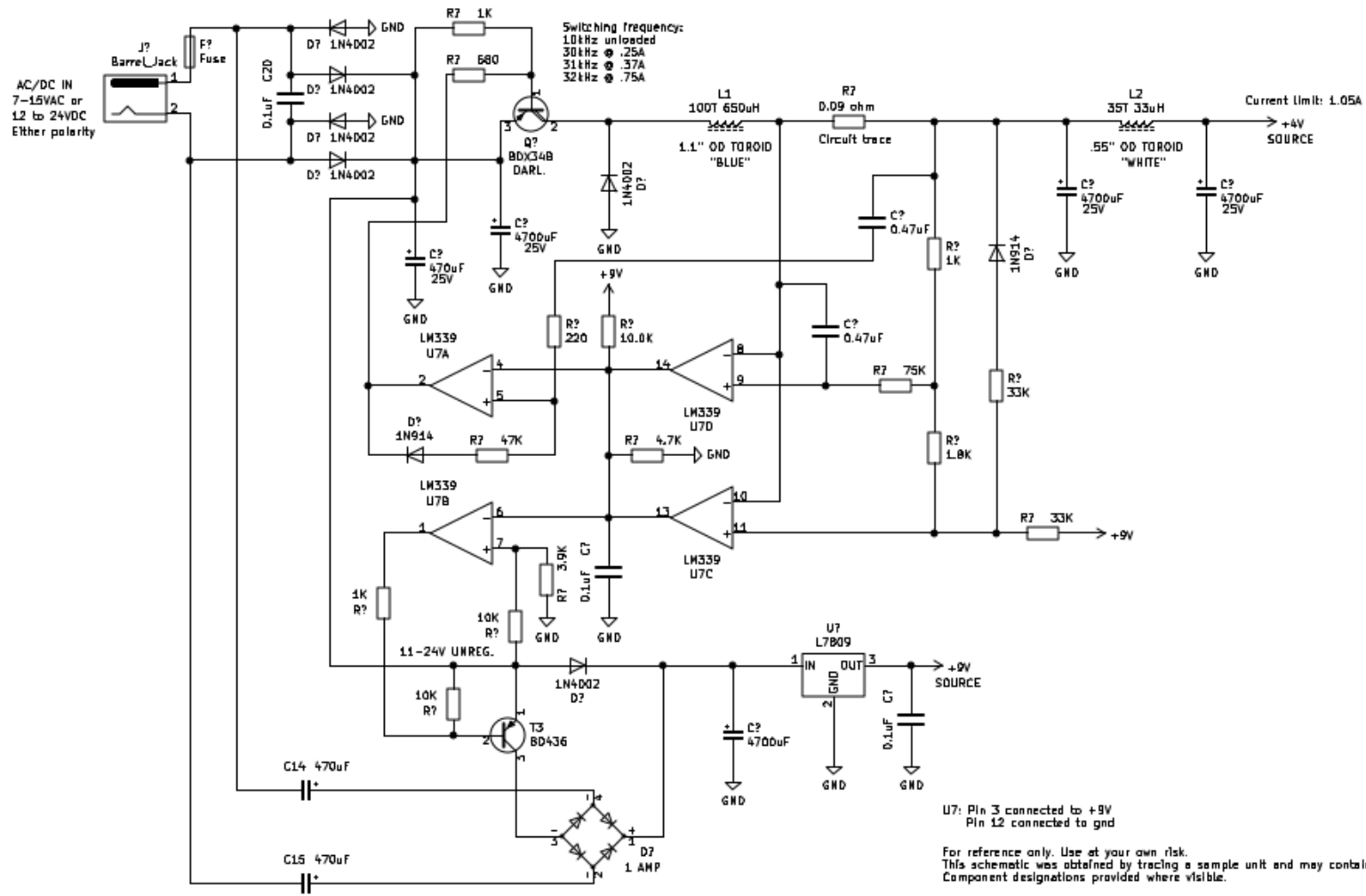
LEGO 70455 INTERFACE		2
OUTPUT DRIVERS		
Sheet: /		
File: LegoZ.sch		Traced by N. Greenough N2GX
Title: LEGO 70455 INTERFACE		
Size: A	Date: 2019-12-03	Rev: 0
KiCad E.D.A. eschema (5.1.2)-1		Id: 1/1



U6: Pin 4 connected to +9V
Pin 11 connected to gnd.

For reference only. Use at your own risk.
This schematic was obtained by tracing a sample unit and may contain errors.
Component designations provided where visible.

LEGO 70455 INTERFACE		3
INPUT CIRCUIT		
Sheet: /	Traced by N. Greenough N2GX	
File: Lego3.sch		
Title: LEGO 70455 INTERFACE		
Size: A	Date: 2019-12-03	Rev: 0
KiCad E.D.A. eeschema (5.1.2)-1		Id: 1/1



Switching frequency:
 10kHz unloaded
 30kHz @ .25A
 31kHz @ .37A
 32kHz @ .75A

L1 and L2 Inductances are measured, turns are counted.
 Use a toroid Inductance calculator to calculate # of turns on a specific core
 or to select a core based on size, turns and inductance

U7: Pin 3 connected to +9V
 Pin 12 connected to gnd

 For reference only. Use at your own risk.
 This schematic was obtained by tracing a sample unit and may contain errors.
 Component designations provided where visible.

LEGO 70455 INTERFACE		4
POWER SUPPLY		
Sheet: /		
File: Lego4.sch		Traced by N. Greenough N2GK
Title: LEGO 70455 INTERFACE		
Size: A	Date: 2019-12-03	Rev: 0
KiCad E.D.A. kicad (5.1.2)-1		Id: 1/1