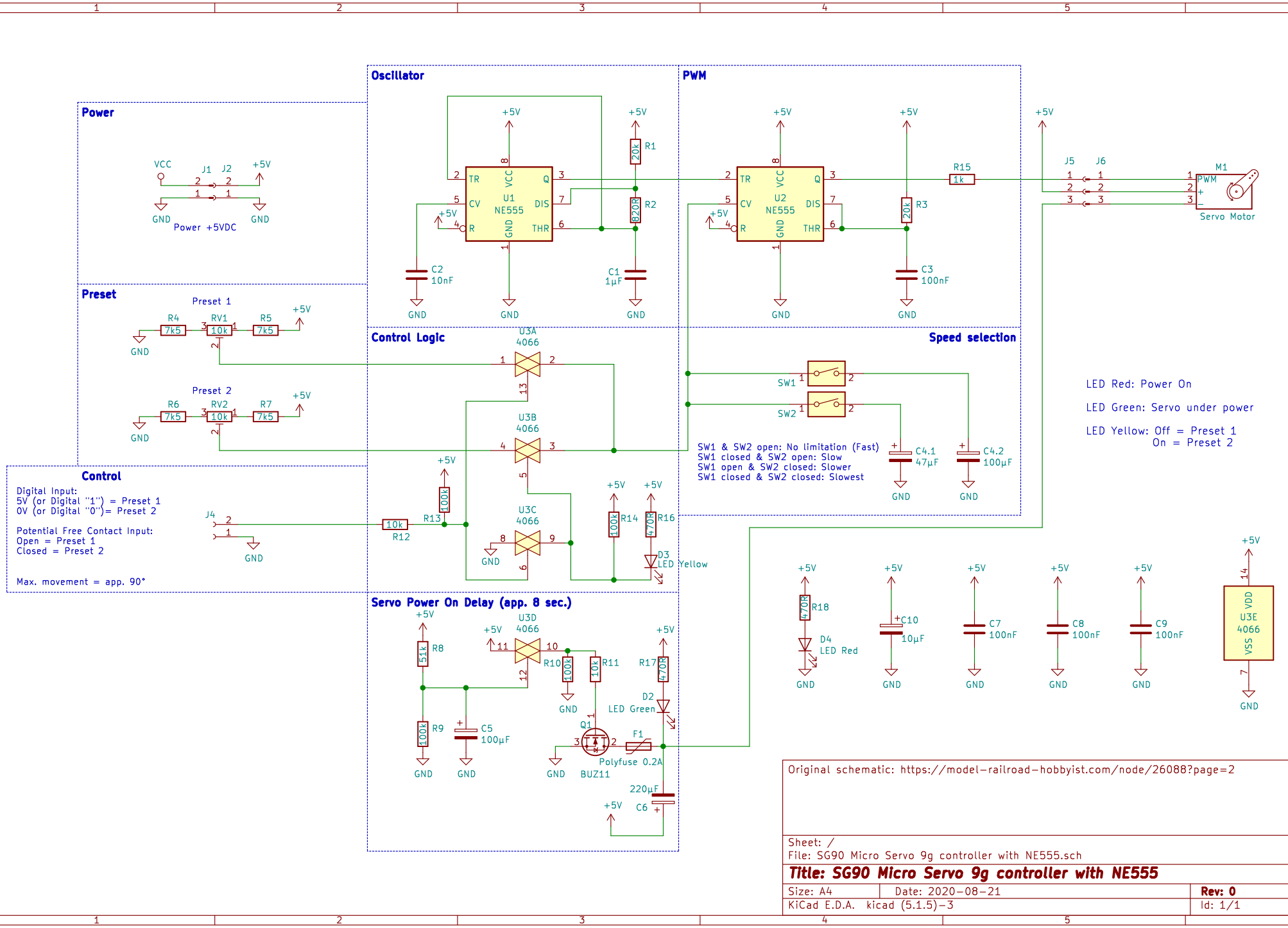
Power
VCC
J1
J2
+5V
GND
GND
Power +5VDC
Oscillator
U1
NE555
TR
CV
R
VCC
GND
Q
DIS
THR
R1
20k
R2
820R
C2
10nF
C1
1µF
PWM
U2
NE555
R15
1k
R3
20k
C3
100nF
J5
J6
M1
PWM
Servo Motor
Preset
Preset 1
R4
7k5
RV1
10k
R5
7k5
Preset 2
R6
7k5
RV2
10k
R7
7k5
Control Logic
U3A
4066
U3B
4066
U3C
4066
U3D
4066
U3E
4066
VDD
VSS
Speed selection
SW1
SW2
SW1 & SW2 open: No limitation (Fast)
SW1 closed & SW2 open: Slow
SW1 open & SW2 closed: Slower
SW1 closed & SW2 closed: Slowest
C4.1
47µF
C4.2
100µF
LED Red: Power On
LED Green: Servo under power
LED Yellow: Off = Preset 1
On = Preset 2
Control
Digital Input:
5V (or Digital "1") = Preset 1
0V (or Digital "0")= Preset 2
Potential Free Contact Input:
Open = Preset 1
Closed = Preset 2
Max. movement = app. 90°
J4
R13
100k
R12
10k
R14
100k
R16
470R
D3
LED Yellow
Servo Power On Delay (app. 8 sec.)
R8
51k
R9
100k
C5
100µF
R10
100k
R11
10k
Q1
BUZ11
F1
Polyfuse 0.2A
R17
470R
D2
LED Green
220µF
C6
R18
470R
D4
LED Red
C10
10µF
C7
100nF
C8
100nF
C9
100nF
Original schematic: https://model-railroad-hobbyist.com/node/26088?page=2
Sheet: /
File: SG90 Micro Servo 9g controller with NE555.sch
Title: SG90 Micro Servo 9g controller with NE555
Size: A4
Date: 2020-08-21
Rev: 0
KiCad E.D.A. kicad (5.1.5)-3
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