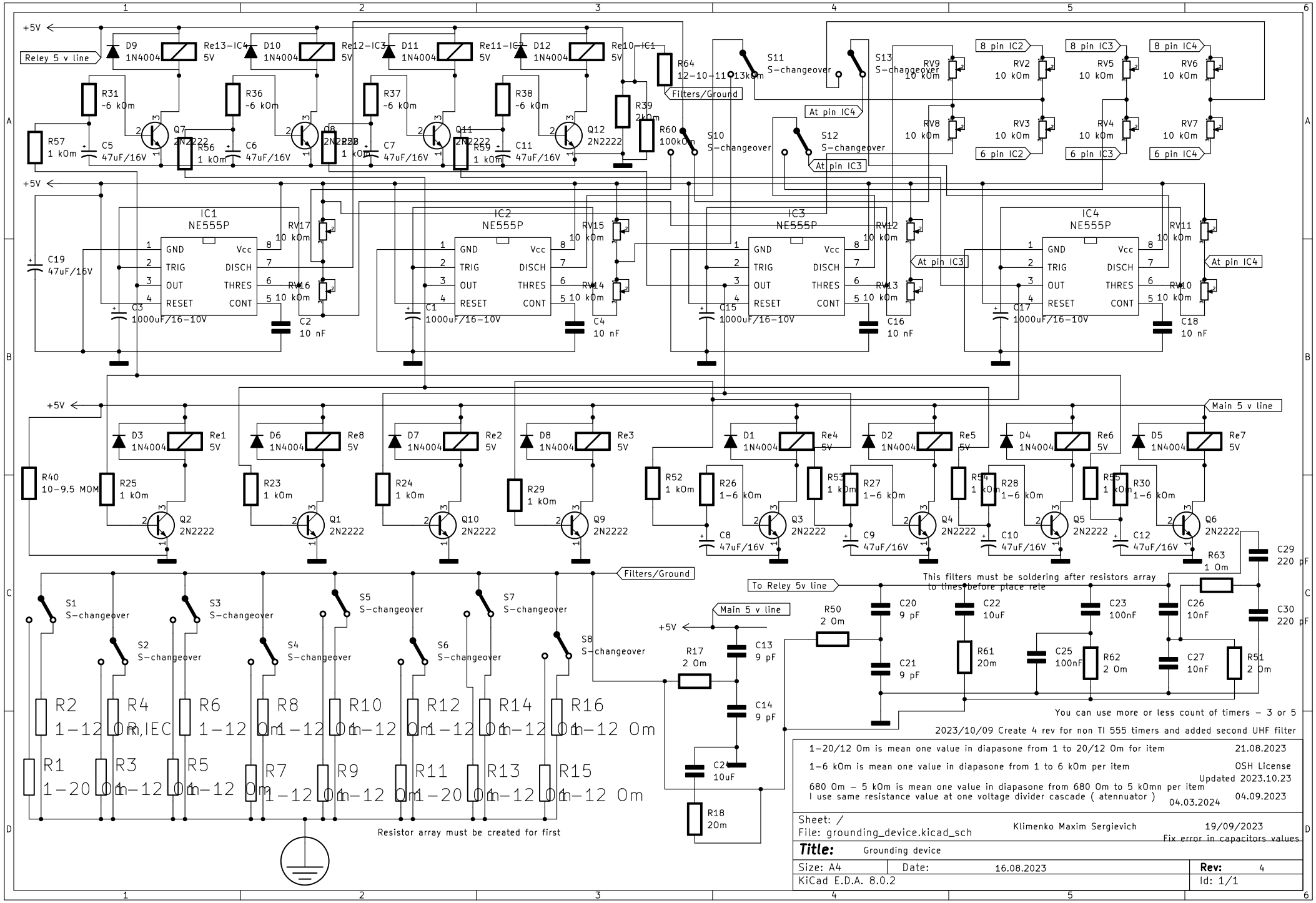
+5V
Reley 5 v line
D9 1N4004
Re13-IC4 5V
D10 1N4004
Re12-IC3 5V
D11 1N4004
Re11-IC2 5V
D12 1N4004
Re10-IC1 5V
R64 12-10-11 13kOm
Filters/Ground
S11 S-changeover
S13 S-changeover
8 pin IC2
8 pin IC3
8 pin IC4
RV9 10 kOm
RV2 10 kOm
RV5 10 kOm
RV6 10 kOm
RV8 10 kOm
RV3 10 kOm
RV4 10 kOm
RV7 10 kOm
6 pin IC2
6 pin IC3
6 pin IC4
At pin IC4
At pin IC3
R31 ~6 kOm
R36 ~6 kOm
R37 ~6 kOm
R38 ~6 kOm
R39 2kOm
R57 1 kOm
C5 47uF/16V
Q7 2N2222
R56 1 kOm
C6 47uF/16V
Q8 2N2222
R58 1 kOm
C7 47uF/16V
Q11 2N2222
R59 1 kOm
C11 47uF/16V
Q12 2N2222
R60 100kOm
S10 S-changeover
S12 S-changeover
IC1 NE555P
IC2 NE555P
IC3 NE555P
IC4 NE555P
GND
TRIG
OUT
RESET
Vcc
DISCH
THRES
CONT
C19 47uF/16V
C3 1000uF/16-10V
C2 10 nF
C1 1000uF/16-10V
C4 10 nF
C15 1000uF/16-10V
C16 10 nF
C17 1000uF/16-10V
C18 10 nF
RV17 10 kOm
RV16 10 kOm
RV15 10 kOm
RV14 10 kOm
RV12 10 kOm
RV13 10 kOm
RV11 10 kOm
RV10 10 kOm
Main 5 v line
D3 1N4004
Re1 5V
D6 1N4004
Re8 5V
D7 1N4004
Re2 5V
D8 1N4004
Re3 5V
D1 1N4004
Re4 5V
D2 1N4004
Re5 5V
D4 1N4004
Re6 5V
D5 1N4004
Re7 5V
R40 10-9.5 MOM
R25 1 kOm
Q2 2N2222
R23 1 kOm
Q1 2N2222
R24 1 kOm
Q10 2N2222
R29 1 kOm
Q9 2N2222
R52 1 kOm
R26 1-6 kOm
C8 47uF/16V
Q3 2N2222
R53 1 kOm
R27 1-6 kOm
C9 47uF/16V
Q4 2N2222
R54 1 kOm
R28 1-6 kOm
C10 47uF/16V
Q5 2N2222
R55 1 kOm
R30 1-6 kOm
C12 47uF/16V
Q6 2N2222
R63 1 Om
C29 220 pF
C30 220 pF
S1 S-changeover
S2 S-changeover
S3 S-changeover
S4 S-changeover
S5 S-changeover
S6 S-changeover
S7 S-changeover
S8 S-changeover
R2 1-12 Om
R4 1-12 Om
R6 1-12 Om
R8 1-12 Om
R10 1-12 Om
R12 1-12 Om
R14 1-12 Om
R16 1-12 Om
R1 1-20 Om
R3 1-12 Om
R5 1-12 Om
R7 1-12 Om
R9 1-12 Om
R11 1-20 Om
R13 1-12 Om
R15 1-12 Om
Resistor array must be created for first
R17 2 Om
C13 9 pF
C14 9 pF
C24 10uF
R18 20m
To Reley 5v line
R50 2 Om
C20 9 pF
C21 9 pF
C22 10uF
R61 20m
C23 100nF
C25 100nF
R62 2 Om
C26 10nF
C27 10nF
R51 2 Om
This filters must be soldering after resistors array to lines before place rele
You can use more or less count of timers - 3 or 5
2023/10/09 Create 4 rev for non TI 555 timers and added second UHF filter
1-20/12 Om is mean one value in diapasone from 1 to 20/12 Om for item
1-6 kOm is mean one value in diapasone from 1 to 6 kOm per item
680 Om - 5 kOm is mean one value in diapasone from 680 Om to 5 kOmn per item
I use same resistance value at one voltage divider cascade (atennuator)
21.08.2023
OSH License
Updated 2023.10.23
04.09.2023
04.03.2024
Sheet: /
File: grounding_device.kicad_sch
Klimenko Maxim Sergievich
19/09/2023
Fix error in capacitors values
Title: Grounding device
Size: A4
Date: 16.08.2023
Rev: 4
KiCad E.D.A. 8.0.2
Id: 1/1