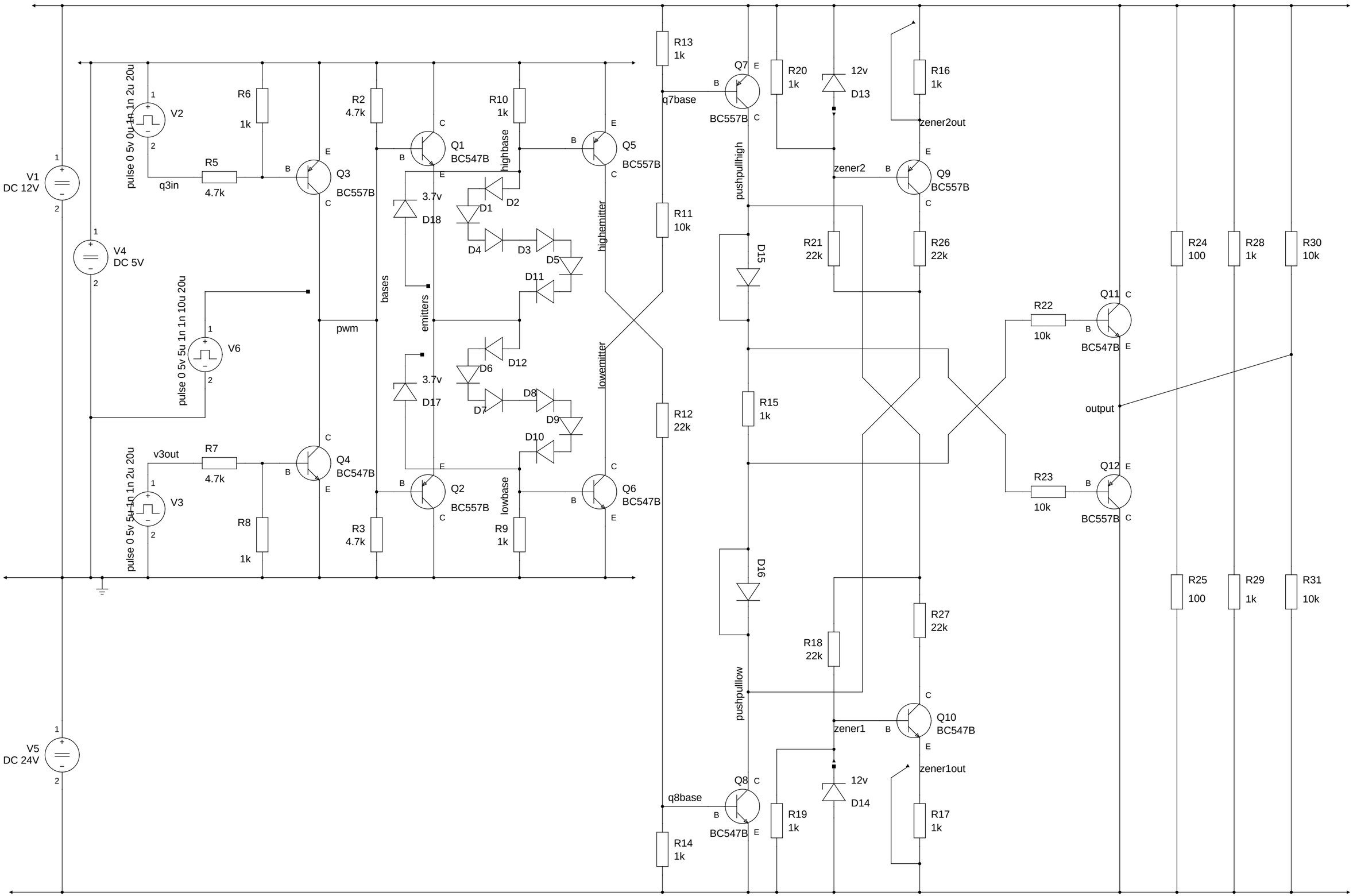
V1
DC 12V
V4
DC 5V
V5
DC 24V
V2
pulse 0 5v 0u 1n 1n 2u 20u
V6
pulse 0 5v 5u 1n 1n 10u 20u
V3
pulse 0 5v 5u 1n 1n 2u 20u
q3in
R5
4.7k
R6
1k
Q3
BC557B
v3out
R7
4.7k
Q4
BC547B
R8
1k
pwm
R2
4.7k
R3
4.7k
bases
emitters
Q1
BC547B
Q2
BC557B
3.7v
D18
3.7v
D17
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
highbase
lowbase
R10
1k
R9
1k
Q5
BC557B
Q6
BC547B
highemitter
lowemitter
R13
1k
R11
10k
R12
22k
R14
1k
q7base
Q7
BC557B
R20
1k
12v
D13
zener2
Q9
BC557B
R21
22k
R26
22k
zener2out
pushpullhigh
D15
R15
1k
D16
R18
22k
R27
22k
pushpulllow
zener1
Q10
BC547B
zener1out
Q8
BC547B
q8base
R19
1k
12v
D14
R17
1k
R22
10k
Q11
BC547B
R23
10k
Q12
BC557B
output
R24
100
R28
1k
R30
10k
R25
100
R29
1k
R31
10k