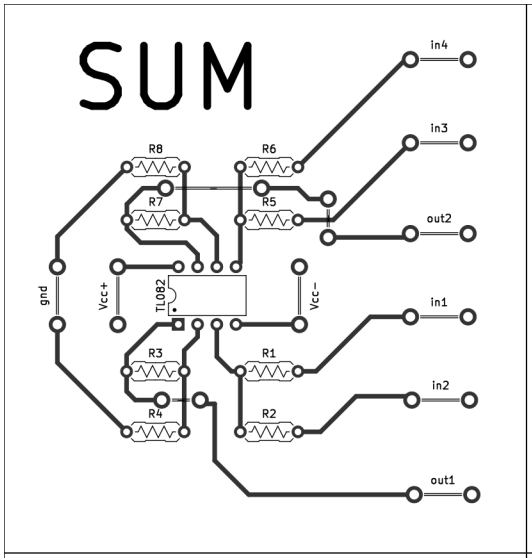
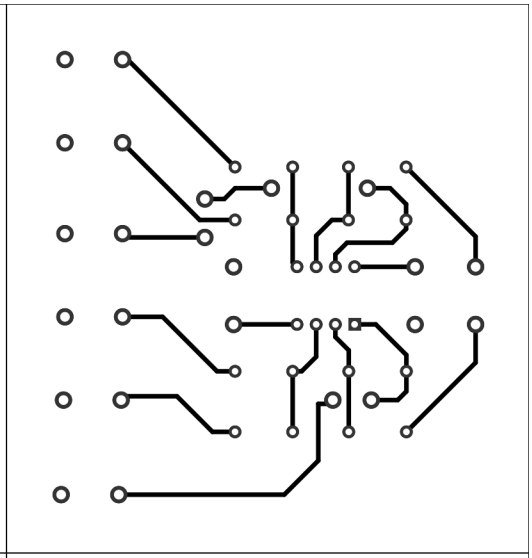




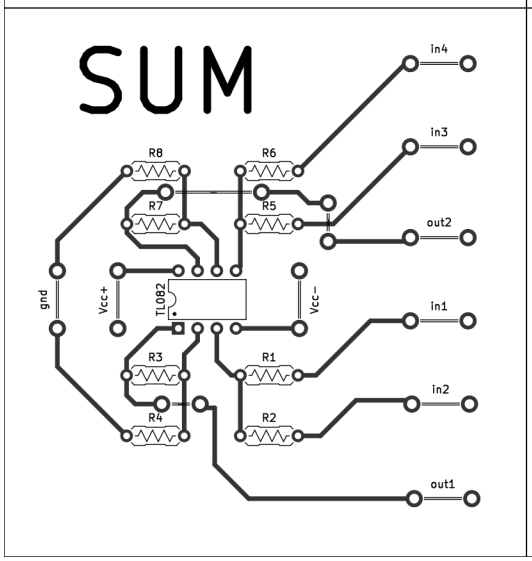
Summation Paper Circuit

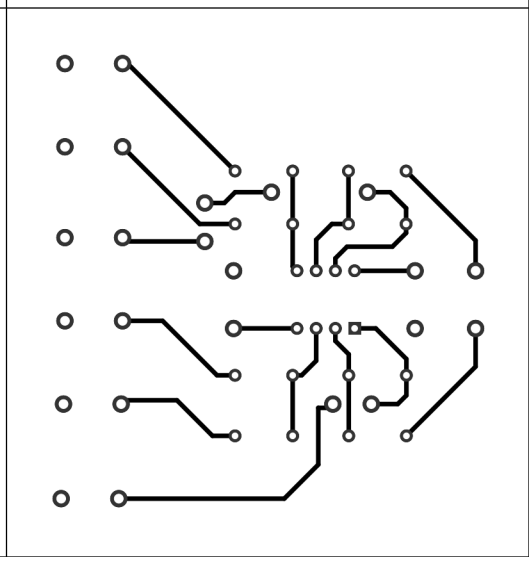
Sums two signals' voltage.

$$V_{out} = V_1 + V_2$$

Recommended values:
R#: 10kΩ
Vcc+: +12V
Vcc−: −12v
Try to use low tolerances.

TL082 max voltage output is:
±[|supply| − 2]V
Using ±12V supply means ±10V out.





Differential Paper Circuit

Takes the difference of two signals' voltage.

$$V_{out} = V_1 - V_2$$

Recommended values:
R#: 10kΩ
Vcc+: +12V
Vcc−: −12V
Try to use low tolerances.

TL082 max voltage output is:
±[|supply| − 2]V
Using ±12V supply means ±10V out.