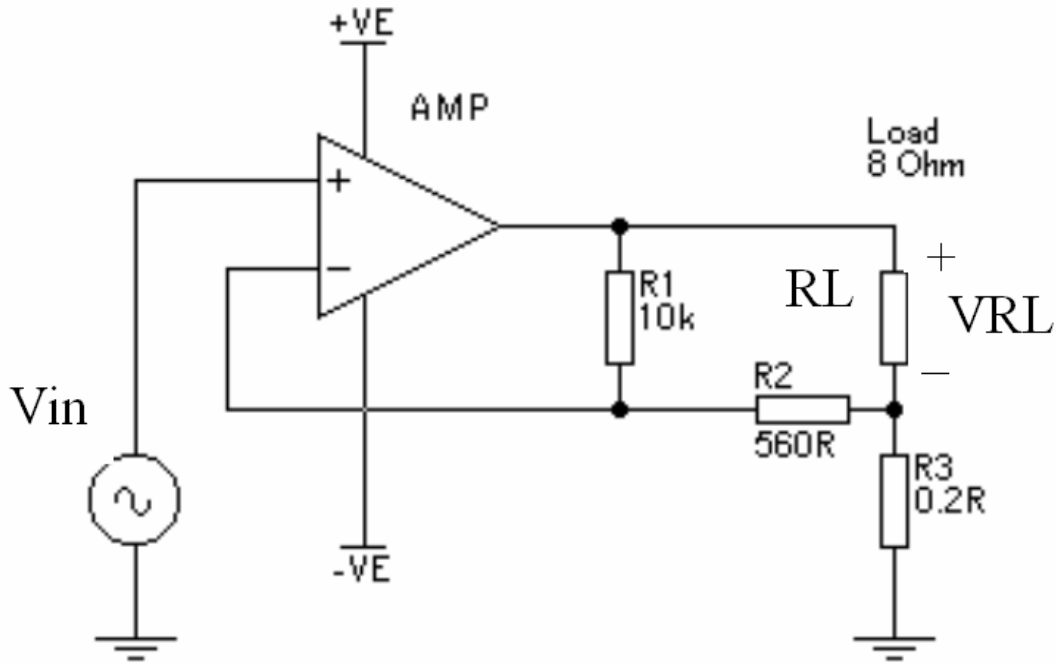


Gain from V_{in} to the Voltage across the load resistor, V_{RL} , is:



$$Gain_to_load = \frac{R1+R2}{R2} \cdot \frac{RL}{R3 \cdot \frac{R1+R2}{R2} + RL}$$

This is the equivalent of a normal non-inverting amplifier, with the usual non-inverting gain of:

$$Non_Inverting_Gain = \frac{R1+R2}{R2}$$

having an output impedance of

$$Z_{out} = R3 \cdot \frac{R1+R2}{R2}$$

For the values here, we have:

Gain_to_load=12.82

Zout=3.77

Non_Inverting_Gain=18.85

Note: we have made reasonable simplifications, assuming that $R3 \ll R2$.

Dan Joffe

June 25, 2011