

# LTSpice Negative Feedback Simulation

This is a simple demonstration of using LTSpice for NFB simulation.

Schematic:

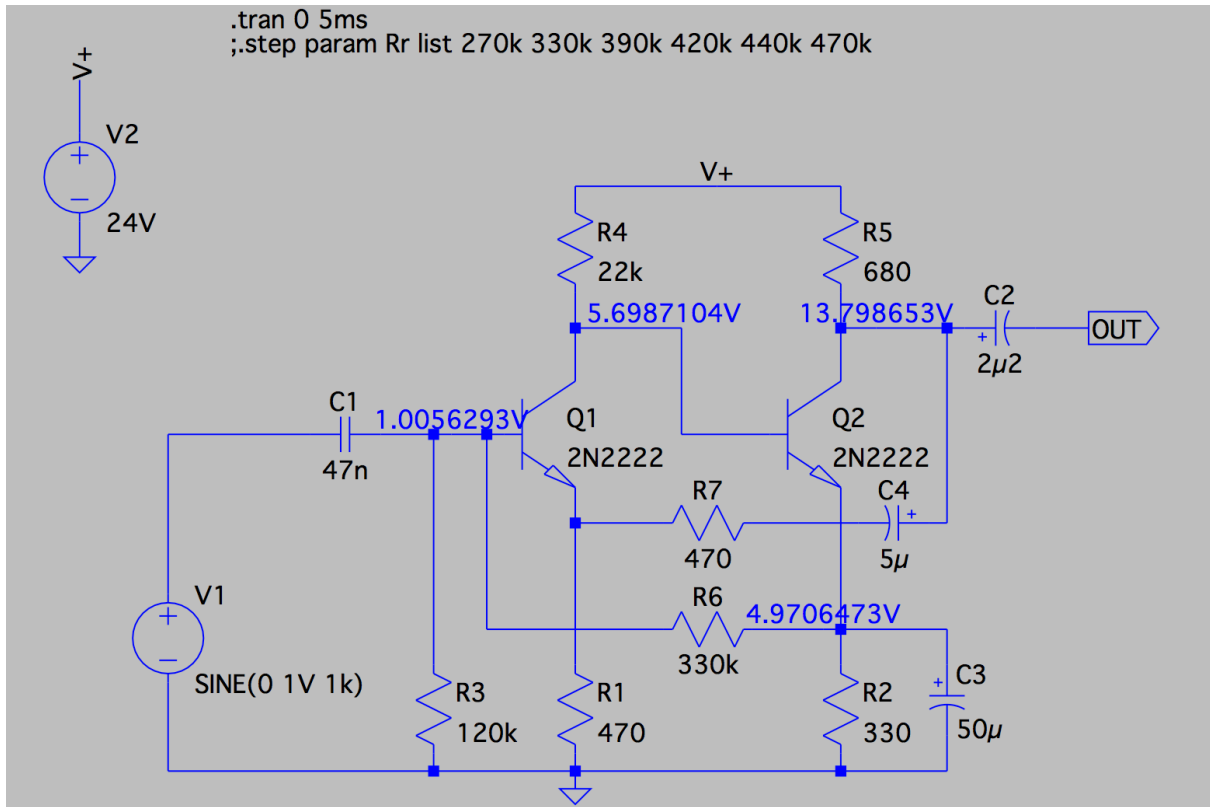


Figure 1 – Simple Gain = 2 two transistor amplifier.

C4-R7 applies the feedback to the emitter circuit of the input stage, which is in phase with the base signal, the feedback waveform on the emitter reduces the current into the base, so effectively increasing the input impedance.

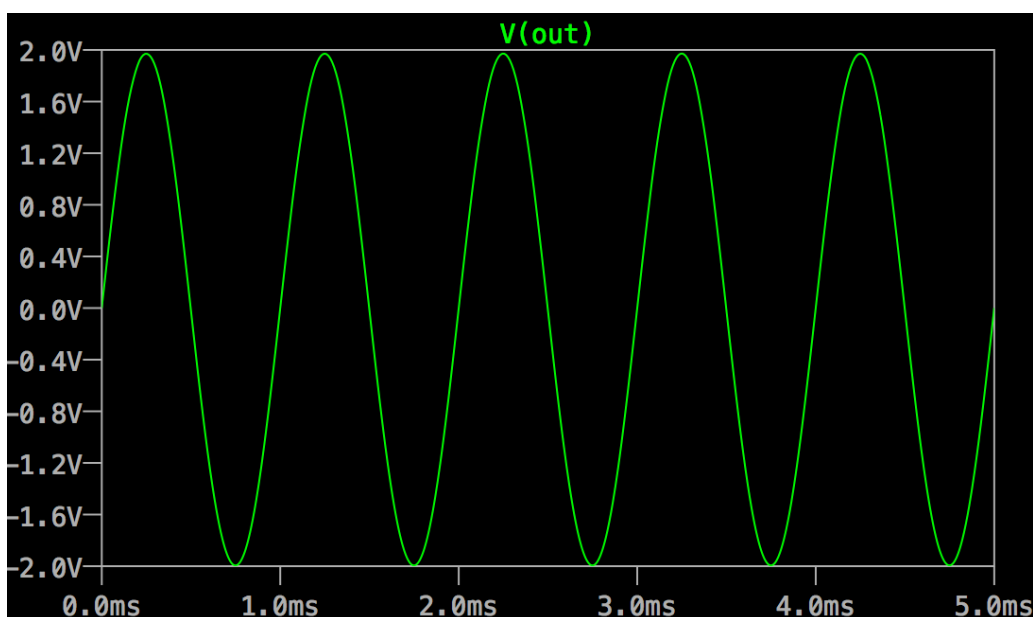


Figure 2 – 4 Vpp output of the device, with 2Vpp applied at input.

Gain of the entire device is equal to

$$G = \frac{R7 + R1}{R1}$$

Which is

$$G = \frac{470 + 470}{470} = 2$$