



## Transistor Mixer



by crazycircuitsfun

I designed this circuit after reading this Instructable:

<https://www.instructables.com/Hearing-Aid>

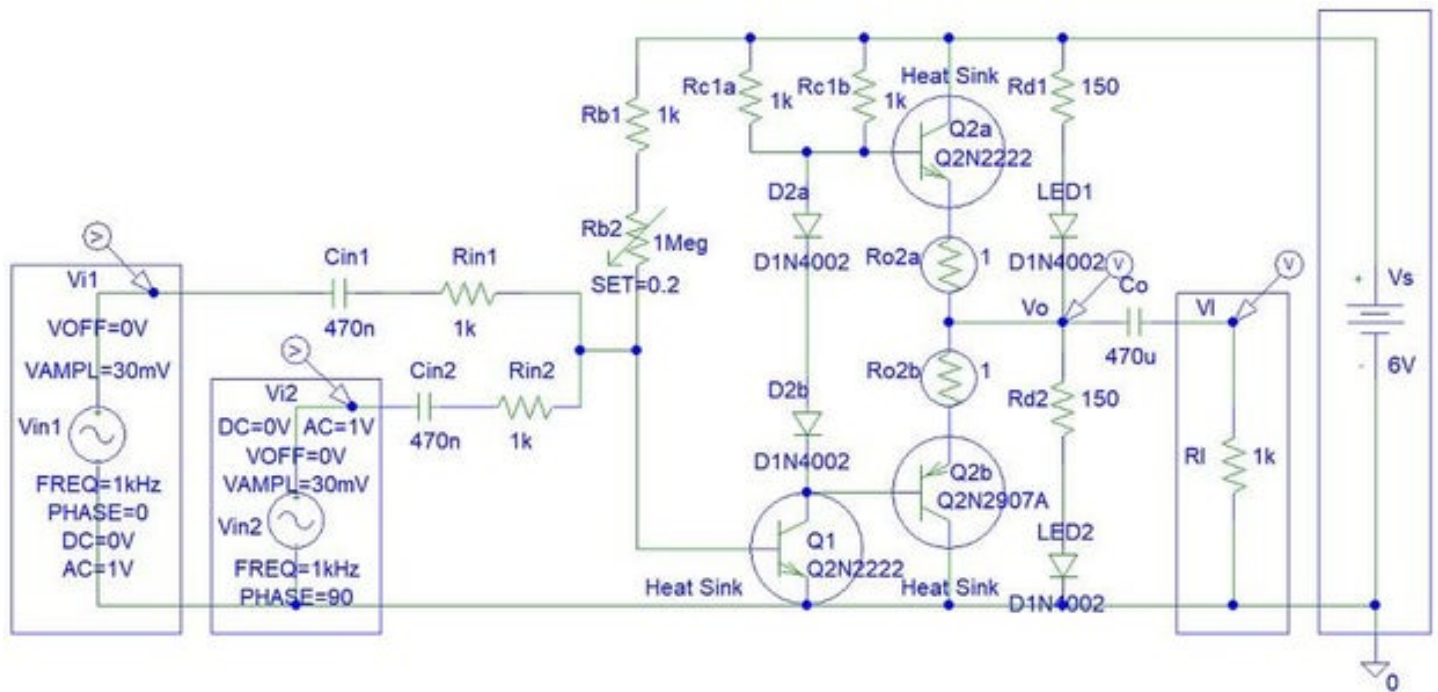
### Supplies:

Components: shown in the circuit.

Tools: multi-meter, pliers, wire stripper.

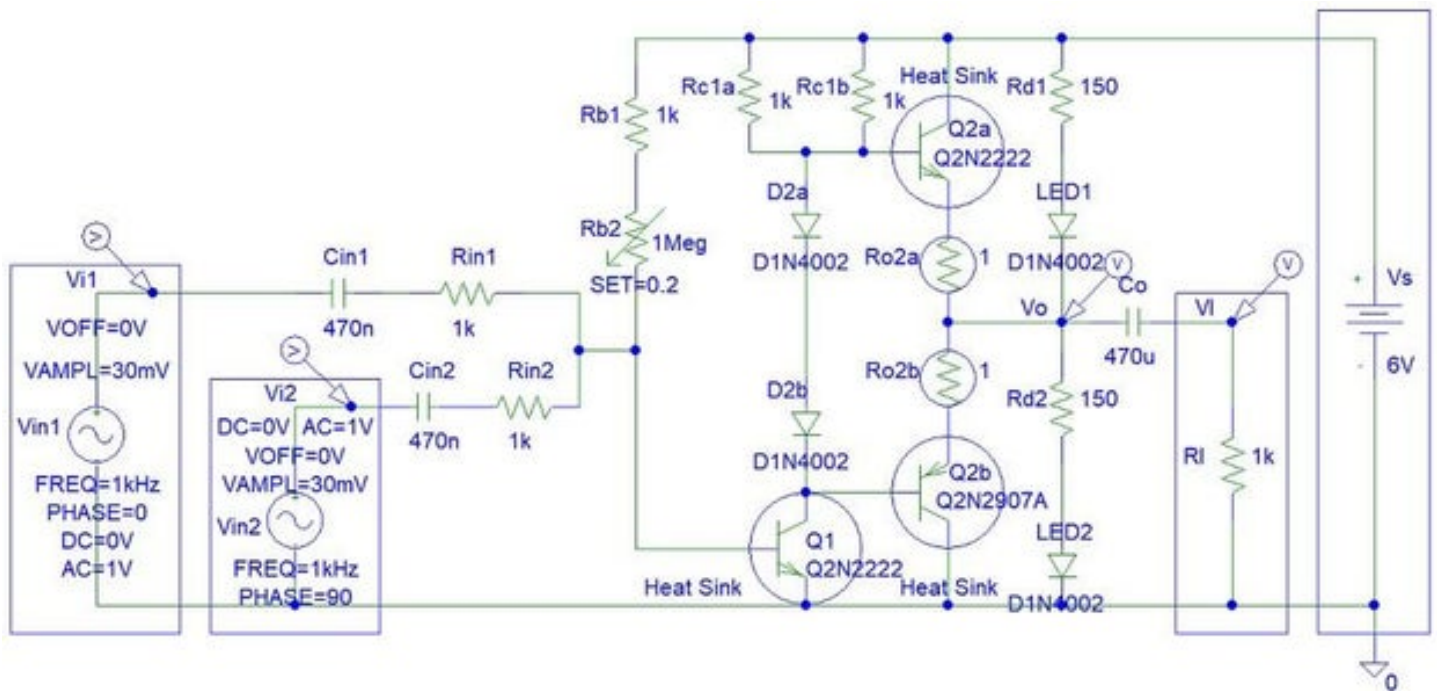
Optional components: solder.

Optional tools: soldering iron, USB oscilloscope.



### Step 1: Design the Circuit

I increased the values of the LED resistors to reduce the maximum current. However, I did consider the issue with the LED light being dim when the output is at half supply voltage.



## Step 2: Simulations

PSpice simulations show that the circuit is working.

Frequency spectrum simulations are showing high bandwidth. The bandwidth would not be so high in practise.

