Simple Class B Amplifier with Correction

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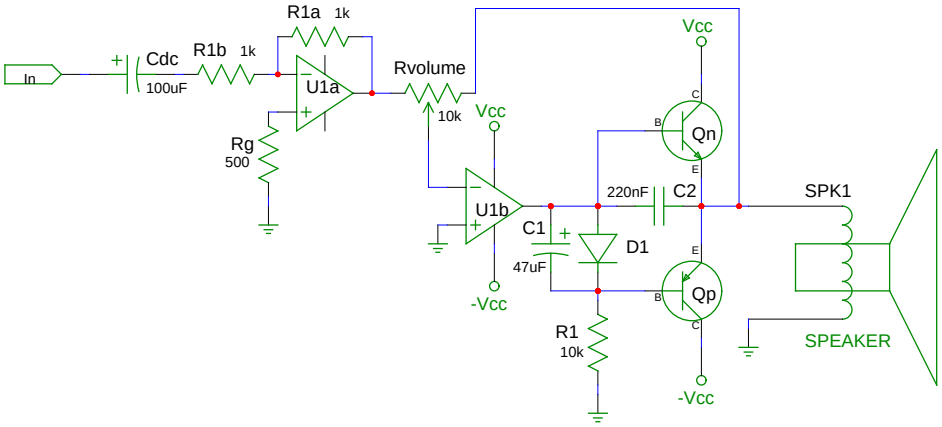
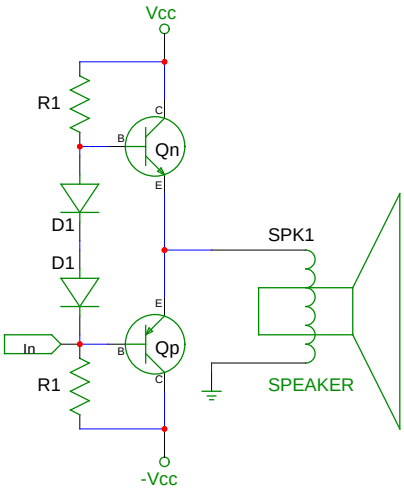
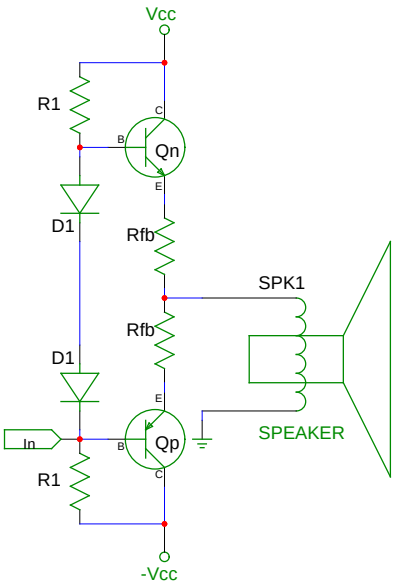


This is a Class B audio amplifier with minimal crossover distortion. Build one amplifier for each channel (2 total for stereo).
Boosters like this need exceptionally clean power rails to minimize noise.
Qn+Qp are matched power transistors with a 65watt rating each. These will get warm but should not require heat sinks.
U1a+U1b is a dual signal level op amp with a decent slew rate (needed for the crossover feedback).
U1a acts as an inverting buffer for the next stage. U1b inverts the signal again for positive output.
Rvolume is the volume control by variable gain. Even though Rvolume is one part, technically it is a voltage divider suitable for op amp use.
Rvolume forms the feedback loop including the power transistors.
Since the power transistors are inside the feedback loop, the crossover distortion will be mostly removed by the op amp.
D1 will have a similar voltage drop as Qn or Qp and is there to help reduce the crossover voltage thus lessening the response time needed for the op-amp. Change D1 to an LED or zener for a higher bias.
C1 is in parallel with D1 and helps keep D1's bias voltage constant during large voltage swings and heavy transients.
C2 helps reduce crossover distortion at low signal levels (feed forward).



Dual Diode Example.
The 2 diodes will drop about as much voltage as the 2 transistors do.
Both R1's are needed to prevent shorting out the power rails.
When the transistors heat up, their voltage drop will decrease.
Since the diodes do not carry any substantial current, they will not heat up and their voltage drop will remain roughly consistent.
The amp will start acting in Class AB mode at this point and will use more power thus the circuit efficiency of Class B will decrease. The wasted power is dissipated as heat within the transistors (and they may need real heat sinking at this point).



Feedback Example.
This one adds feedback by Rfb.
This will not really prevent both transistors being on at the same time, but will help reduce it.
The resistors have the added benefit of helping to reduce thermal runaway problems.
The resistors have the added problem of increasing output impedance and lowering effective output power.