20/20

ECE 212 Spring 2017 M / Th / F Names: Xi Kun Zou
Circuit Analysis II Group A / B Meng Ling Shi

Lab 3: Building a Power Supply and a Stereo Amplifier

Objectives

In this lab exercise you will build a regulated variable-voltage power supply and a 10-watt stereo amplifier. The power supply will be tested to ensure proper operation, and it will be used to power the stereo amplifier. A number of measurements will then be performed to ensure that the amplifier behaves as expected.

Pre-Lab Instructions

Readings

1. Read the *Soldering Instructions* in the Appendix for a description of proper soldering techniques. (These instructions were for a digital multimeter kit, so ignore any mention of a multimeter.) Good soldering connections will be vital in the construction of the power supply and the stereo amplifier.

Gain Calculations for the Stereo Amplifier

1. In PSpice, simulate the circuit shown in Figure 1. Print the waveforms of the input and output voltages, V_{in} and V_{out}, as well as the circuit schematic. (**NOTE: Your name must appear in the filename at the top of all waveform printouts!**)

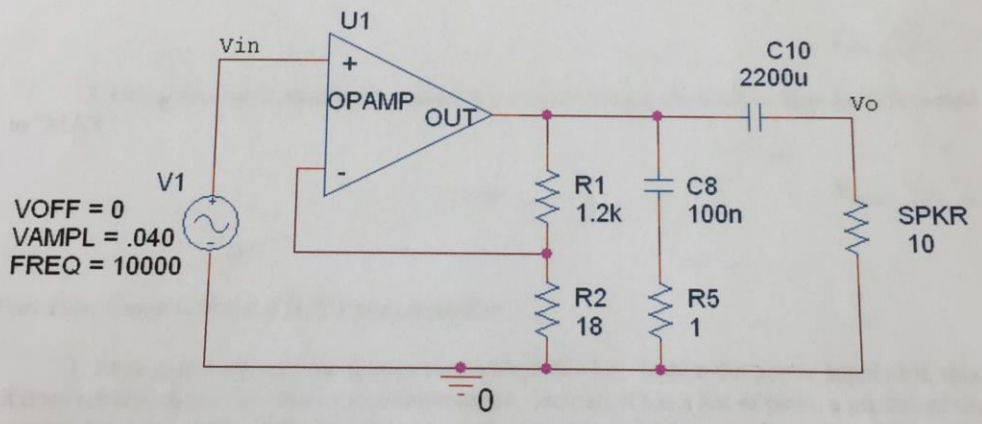
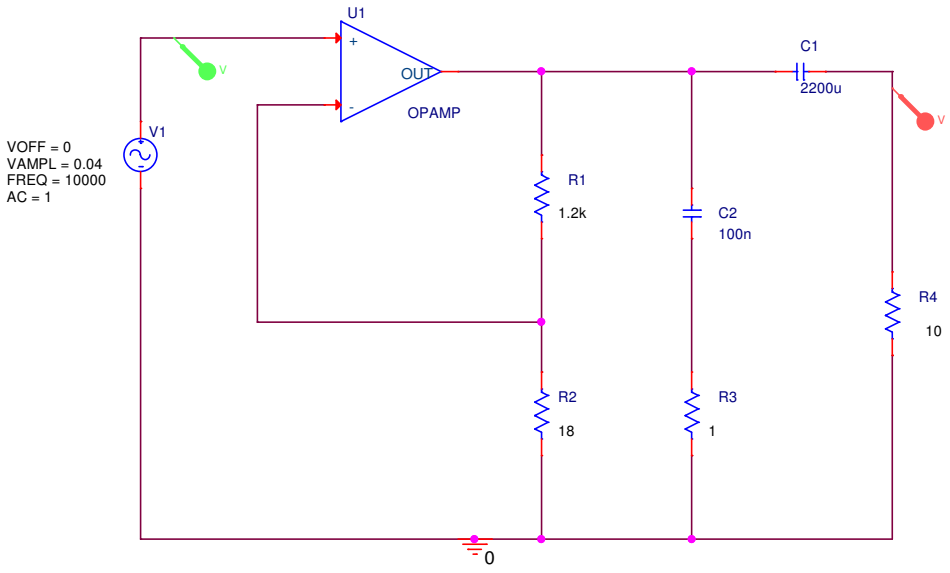


Figure 1: Simplified Schematic for One Channel of the Stereo Amplifier

2. Record the amplitude of the output voltage and find the gain (Vo/Vin).

Vo: 2.67V ✓

Vo/Vin: 2.67/0.04 = 66 ✓



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