Lab 8 Report

Jonathan Westerfield

224005649

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Objective:

The purpose of this lab is to study some of the advanced op amp configurations commonly found in practical applications. The circuits we will build and study are the summing amplifier, the differential amplifier and the instrumentation amplifier. We will measure the outputs versus the input to see the properties of each.

Introduction:

First, we build the circuits in Multisim to give us a rough estimation on what the values should be. Then, we go through and build each circuit based on the values of the resistances that we calculated, and measure the input and output voltages. To measure this, we look at the transient responses of each circuit.

Calculations

Simulation Plots

Experimental Plots

Conclusion:

For my NPN circuit, the calculations, simulations and experimental measurements were all very close together, the experimental measurements were a little off because I was forced to use different resistance values since the values I calculated were not in my lab kit.

For my PNP circuit, everything was wrong comparing my calculated vs simulated. This may be due to improper placement of resistance values when creating the schematic. However, my simulated and experimental measurements were very close to each other. They would’ve been closer but I was forced to use different resistance values since the values I calculated were not in my lab kit.