

1 Lab 2 in-lab, for extra credit

After you completed the required part, measure the input and output resistance.

You can measure the output resistance by removing R_{load} and measuring the new output level. Then, using a Thevenin equivalent circuit, compute the internal resistance.

You can measure the input resistance by measuring the voltage across R_s and assuming a voltage divider topology.

2 Lab 2 final report:

Please arrange your report in the order listed here.

2.1 Summary (on cover)

On the cover, show a schematic of the amplifier, with a table of measurements:

1. Gain
2. Clip level
3. Input and output resistance, if you did it.

2.2 Theory

Compare your actual results to the preliminary simulation and your calculations. Explain any differences.

2.3 Journal

Your report should include a journal of what you did with enough detail that someone else can repeat your experiment, complete with mistakes.

2.4 Simulation

Start with your files from the pre-lab simulation.

Do a time domain (transient) analysis with the input set to 1 KHz, level just below clipping. Verify that it performs similarly to your measurements.

2.5 Extra credit

Using simulation, change the value of the resistor R_6 so the clipping is symmetric.

Then using simulation, change the value of R_1 so the first stage internal clipping is symmetric.

Verify with AC analysis that the gain is nearly the same.

Find the input and output resistance of the amplifier.