Prelab 2

Jaiden Gann

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Edit Note(from lab report): Correct values were given once swapping which pins got negative or positive power. (Is opposite of pinout)

In lab, the Oscilloscope value had to be obtained from V­RMS given by MM multiplied by 2sq(2)

## Part 1:inverting op-amp

Diagram, schematic

Description automatically generated

**Figure 1.** Inverting op-amp circuit diagram

Chart

Description automatically generated

**Figure 2.** Input and output waveforms for Figure 1

**Table 1.** Simulation results for inverting op-amp

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| VINpp(V) | RIN (kΩ) | RF (kΩ) | VOUTpp (V) O-Scope | Gain (v/V) | VOUTrms (V) DMM |
| 2 | 1 | 0.5 | -0.996 | -0.498 | 0.354 |
| 1 | -1.994 | -0.997 | 0.707 |
| 2 | -3.984 | -1.992 | 1.41 |
| 3 | -5.972 | -2.986 | 2.12 |
| 4 | -7.962 | -3.981 | 2.83 |

## Part 2:non-inverting op-amp

Diagram, schematic

Description automatically generated

**Figure 3**. Non-inverting op-amp circuit diagram

Chart

Description automatically generated

**Figure 4.** Input and output waveforms for Figure 3

**Table 2.** Simulation results for non-inverting op-amp

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| VINpp(V) | RIN (kΩ) | RF (kΩ) | VOUTpp (V) O-Scope | Gain (v/V) | VOUTrms (V) DMM |
| 2 | 1 | 0.5 | 2.987 | 1.494 | 1.06 |
| 1 | 3.982 | 1.991 | 1.41 |
| 2 | 5.974 | 2.987 | 2.12 |
| 3 | 7.982 | 3.991 | 2.83 |
| 4 | 9.987 | 4.994 | 3.54 |