University of Arizona

Electrical & Computer Engineering

ECE 351C

Electronic Circuits

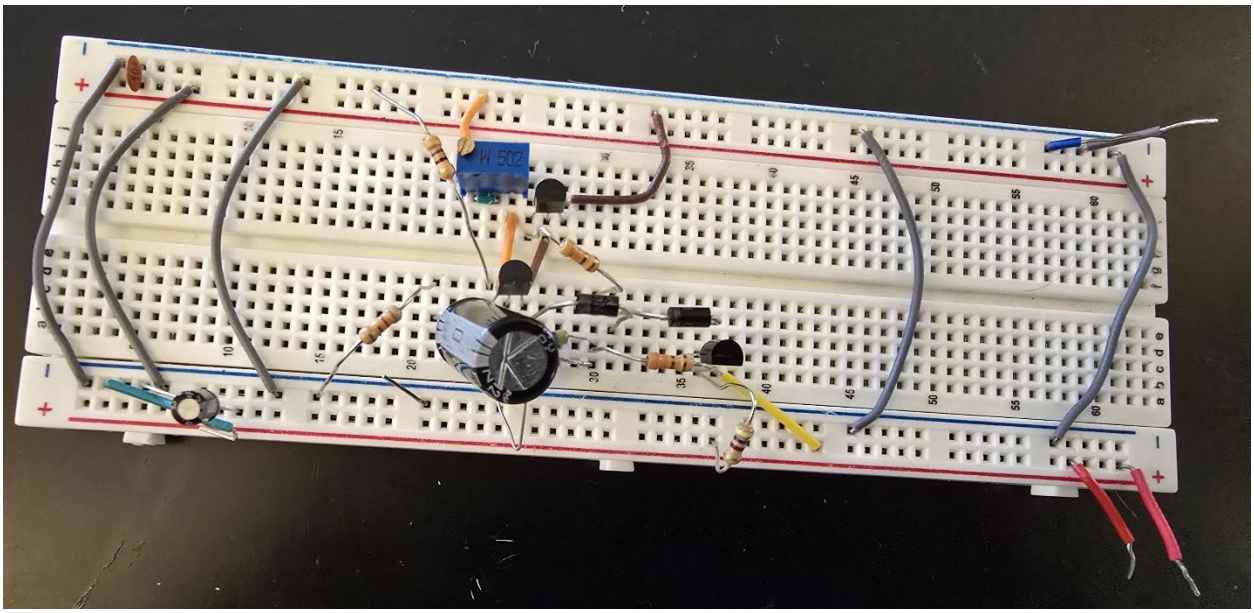
Dr. Hetherington

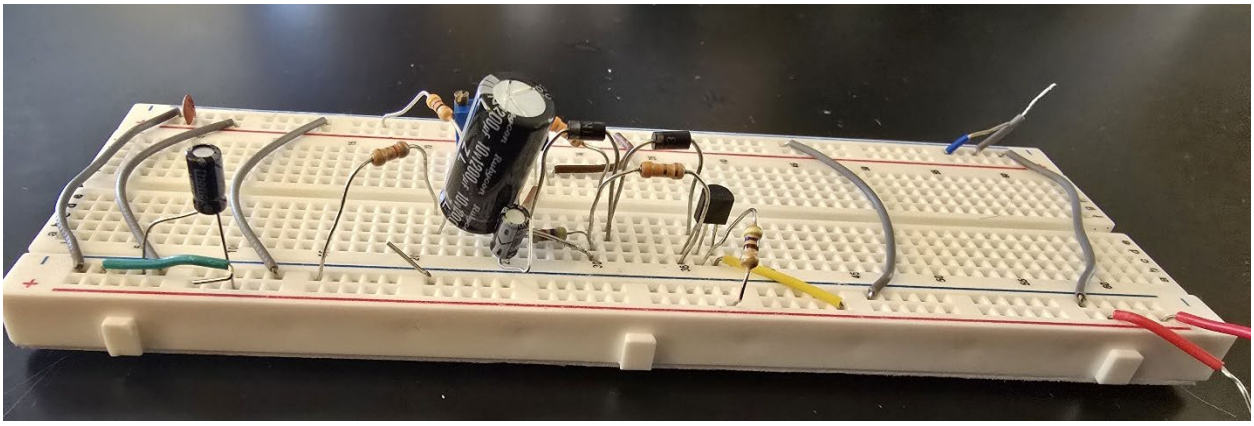
Class Project: Audio Amplifier

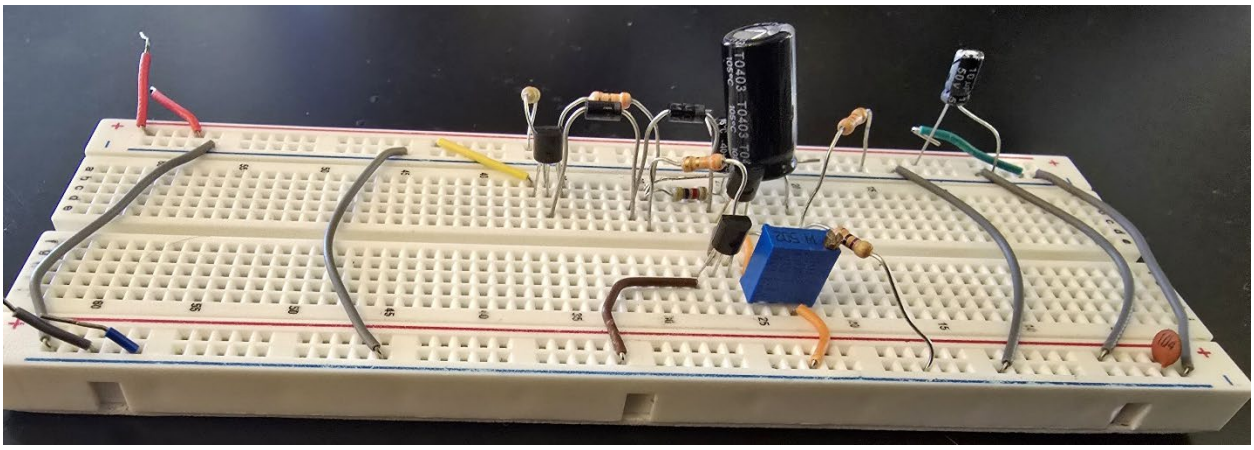
Breadboard Results

Jose Salinas Meza

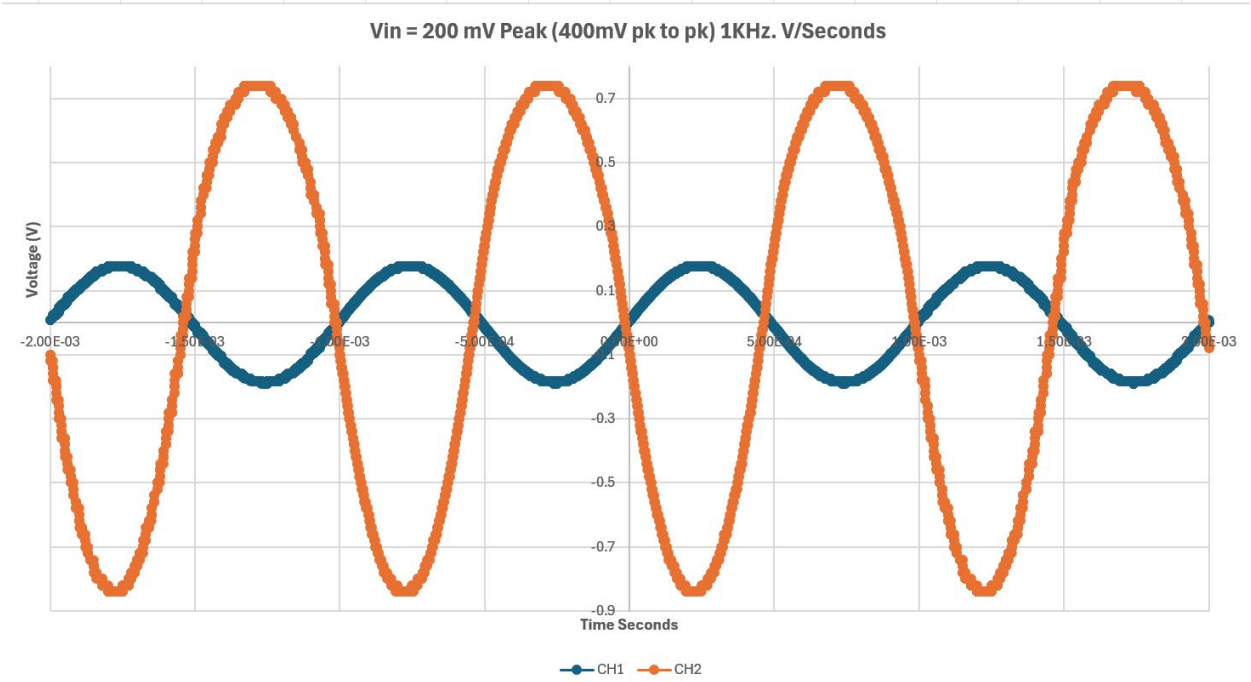
Breadboard Pictures







Sinewave Measurement 400mV pk-pk at 1Khz

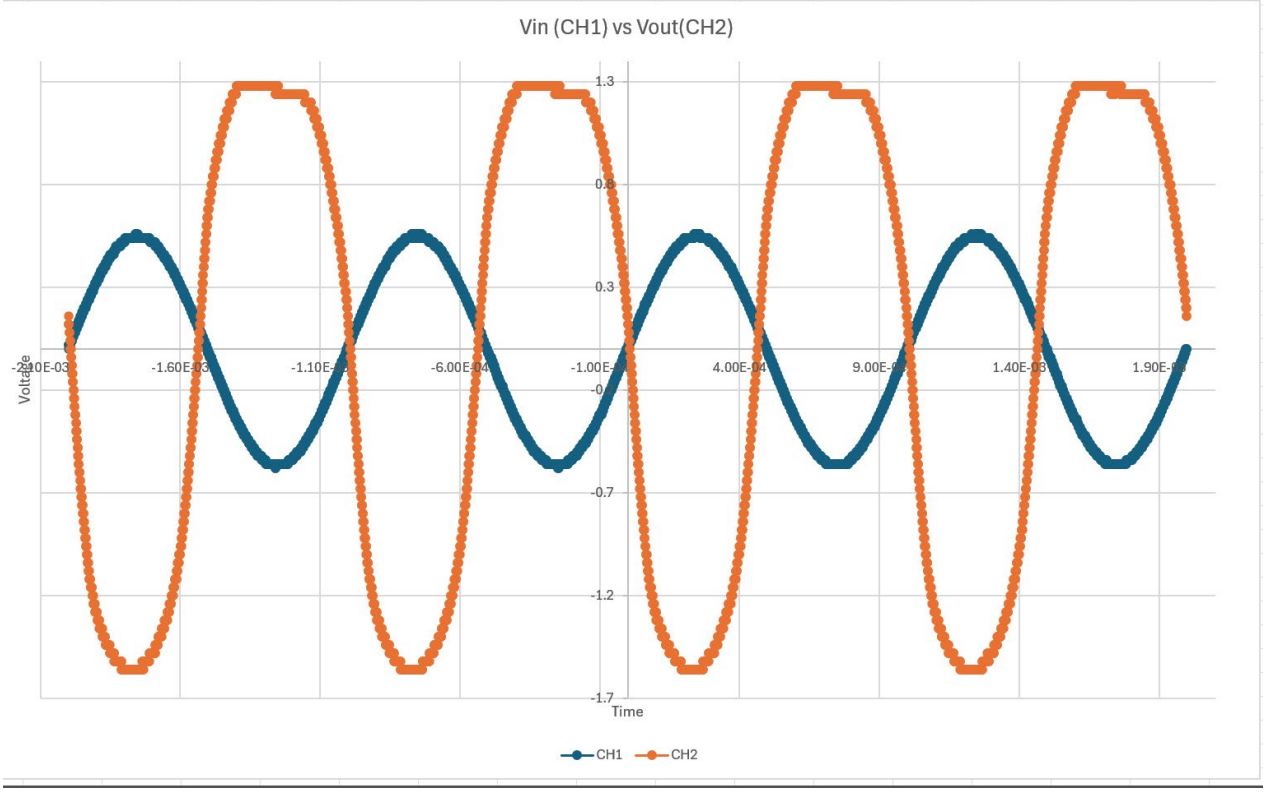


Measurement		
	CH1 (Vin)	CH2 (Vout)
Max	0.18	0.74
Min	-0.19	-0.84

Gain Calculation		
	V/V	DB
Vout(Max)/Vin(Min)	-3.85	-11.72
Vout(Min)/Vin(Max)	-4.77	-13.58

Average Gain Calculation			
	V pk-pk	Gain V/V	Gain dB
CH1	0.37	4.29	12.7
CH2	1.58		

Sinewave Measurement 1.2V pk-pk at 1Khz



Measurement		
	CH1 (Vin)	CH2 (Vout)
Max	0.56	1.28
Min	0.58	-1.56

Gain Calculation		
	V/V	DB
Vout(Max)/Vin(Min)	-2.21	-6.88
Vout(Min)/Vin(Max)	-2.79	-8.90

Total Gain Calculation			
	V pk-pk	Gain V/V	Gain dB
CH1	1.14	2.49	7.9
CH2	2.84		

Power to Speaker Calculation

For a 500mAh Battery, the estimated lifetime is 4.2 Hours of playing music.

Vin (mV)	Vout (V)	VoutRMS (V)	I RMS () mA
900	2.76	0.98	121.98
Power to Speaker (mW)		Battery Life (Hours)	
119.03		4.2	

AC Sweep 400mV pk – pk