

Change Order Form (COF) Rev 1	
Date	10/17/2020
Subsystem	1.3 Audio Input Circuit (Audio Input Circuit)
Component	1.3.1 Receiving Circuit (Amplifier)
Change	Need to change to resistor values and need to supply a lower DC voltage to the amplifier.
Reasoning	Before the amplifier was not connected to a low pass filter, but because of adding the low pass filter the amplifier's gain has decrease. The gain needs to be high enough for signals, coming from the radio, to be read by the STM32 microcontroller. The microcontroller reads in 70 % of 3.3 V as a high input and 30 % of 3.3 V as a low input. Unfortunately, after testing the signal, outputted from the amplifier, does not reach those amplitudes.
Rationale	A way to fix this issue is to perform a small signal analysis on the current circuit and solve for the necessary resistor values and DC supply voltage, knowing the desired gain and DC offset to achieve.
Mod. Details	Although we yet to test the circuit in the lab, after solving for the necessary resistors and correct DC supply voltage, the circuit was able to output a sine wave that reaches the necessary voltages through simulation, using LTspice.