Lab05

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1 Introduction

The goal of this lab was to build an EKG and further our understanding of filters.

2 Figures

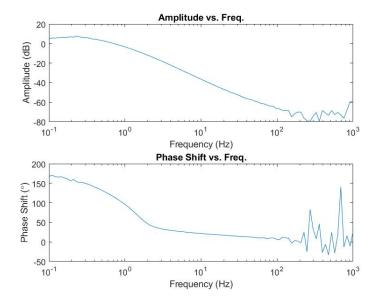


Figure 1: Final Bode plot of the EKG circuit.

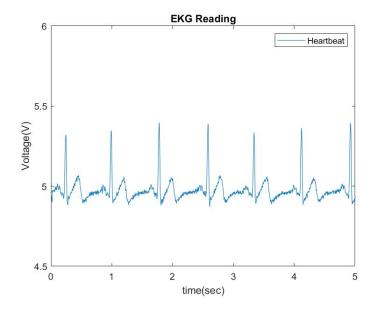


Figure 2: EKG readout after all the amplifications and filters



Figure 3: EKG readout in WaveForms

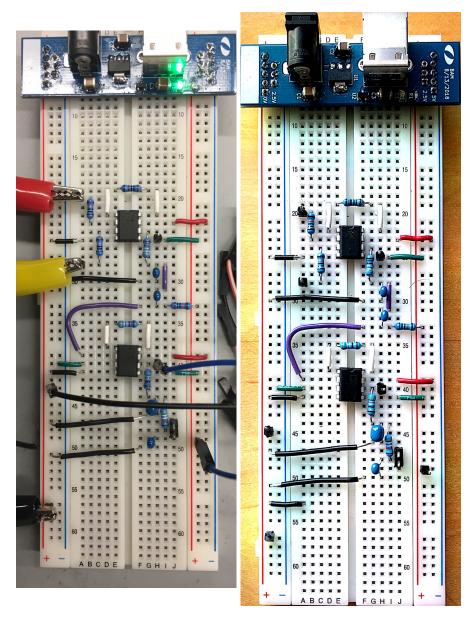


Figure 4: Clean Circuit with and without Analog Discovery Wires

3 Circuit Explanation

The circuit consists of two amplifications, 1 high pass filter and 3 low pass filters to achieve the final EKG readout. The first amplifier of has an R_G of $2k\Omega$ which results in an amplification factor of 51. This is followed by a low pass and high

pass filter with characteristic frequencies of .0325 and .0016, respectively. The second half consists of an amplifier with a Gain of 21 and two low pass filters both with a characteristic frequency of .0325. The total amplification experience by the input is 1000 This combination of 1 high and 3 low pass filters produces a relatively clear EKG output.