

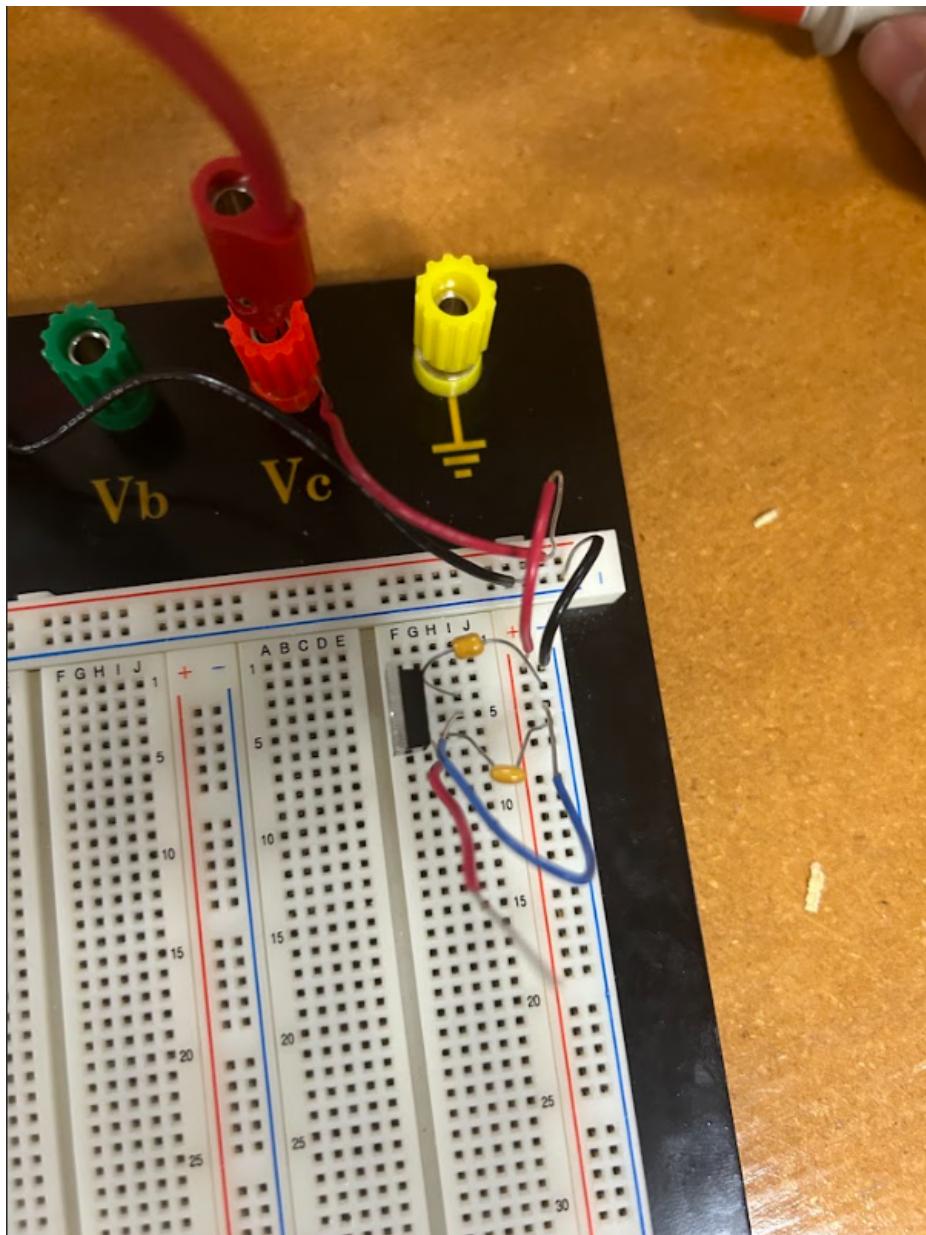
UNIVERSITY OF NEVADA LAS VEGAS, DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING LABORATORIES.

Class:	EE221 Circuits II – 1001		Semester:	Fall 2023
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		Document topic:	Postlab 7	
Instructor's comments:				

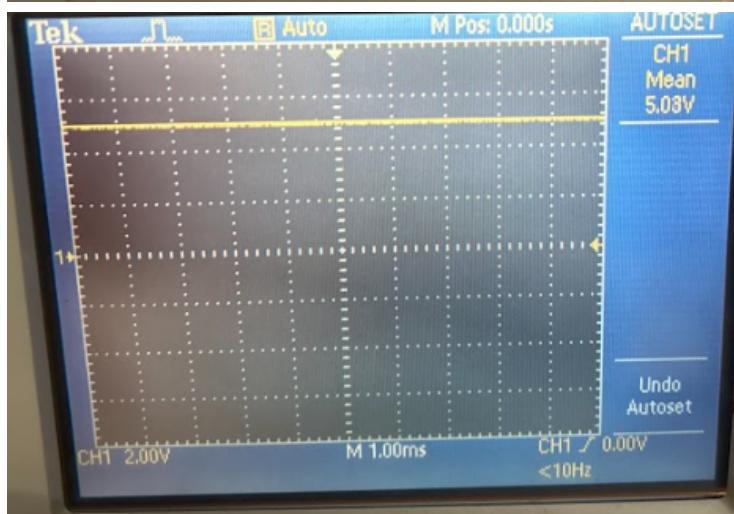
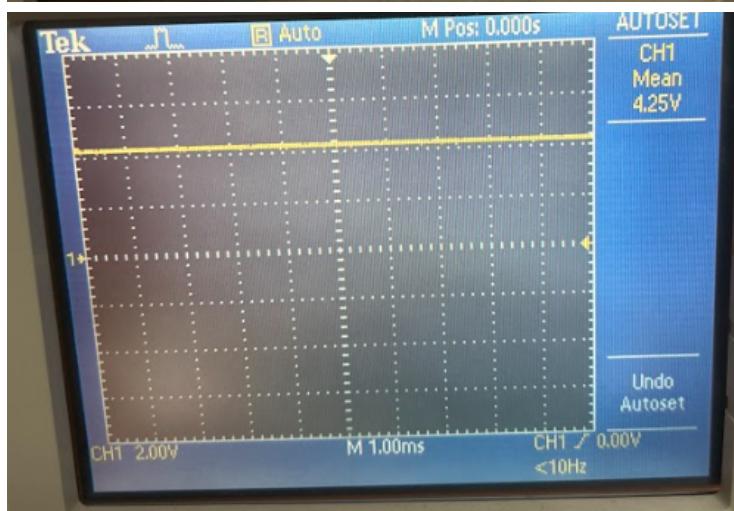
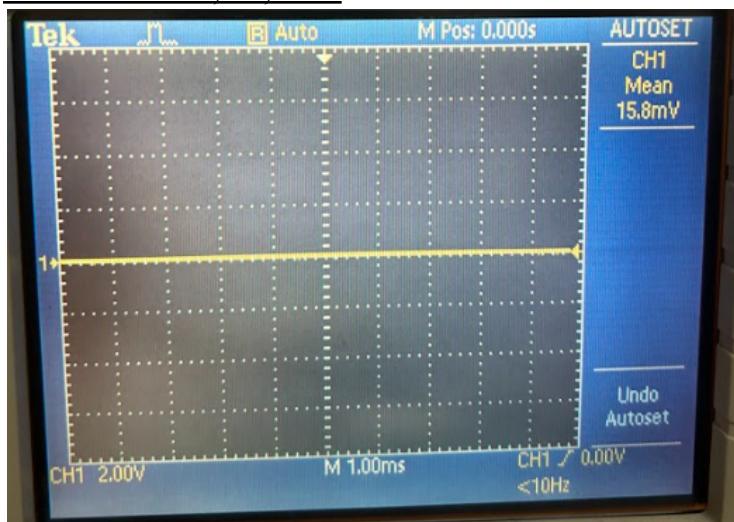
1. Introduction / Theory of Operation

The purpose of this lab was to become familiar with voltage regulators. We learned what voltage regulators are, their functionality and practical applications, and how to implement them ourselves within a circuit. We also looked at different series of regulators and the difference between positive and negative voltage regulators.

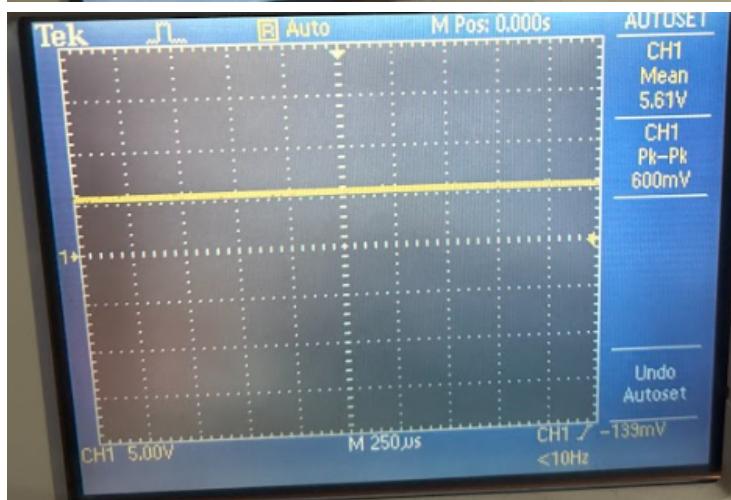
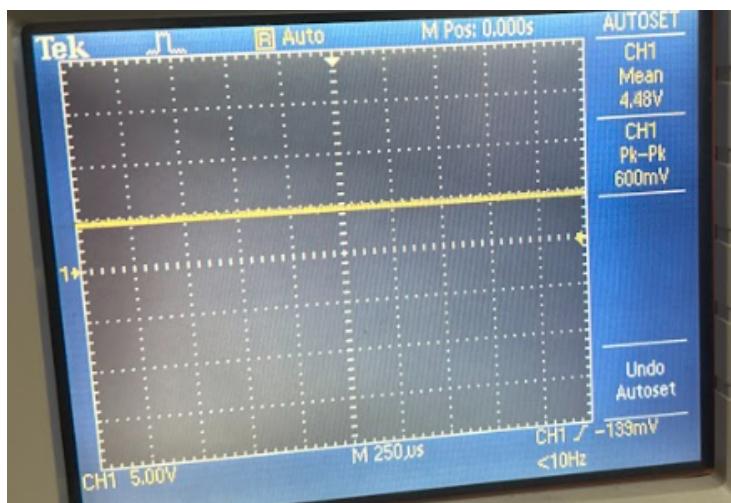
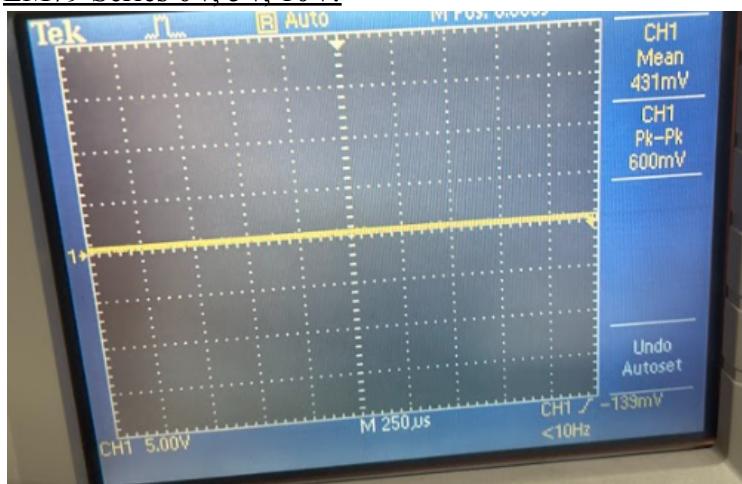
2. Description of Experiments



LM78 Series 0V, 5V, 10V:

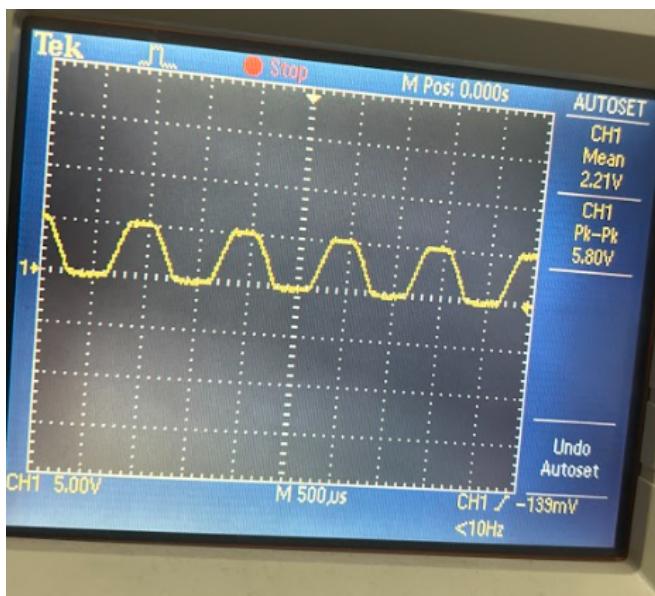
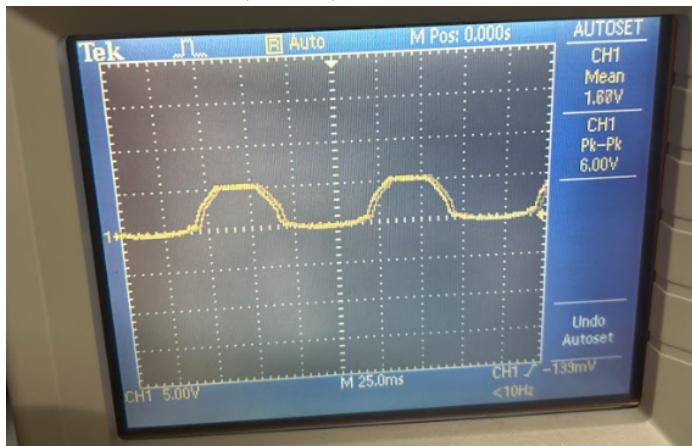


LM79 Series 0V, 5V, 10V:



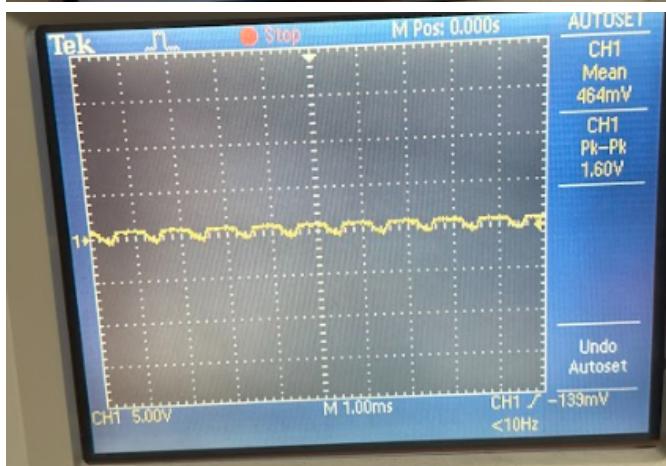
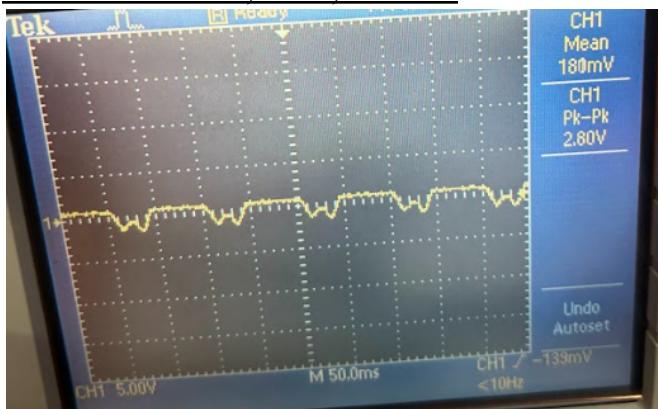
$V_1(V)$	± 1	± 2	± 3	± 4	± 5	± 6	± 7	± 8	± 9	± 10
LM7805	17.0 mV	71.7 mV	2.40 V	3.33 V	4.25 V	5.03 V				
LM905	500 mV	1.35 V	2.20 V	3.37 V	4.40 V	5.60 V				

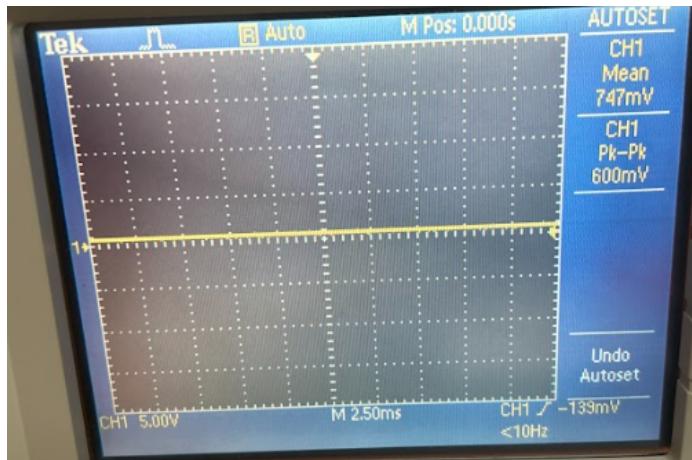
LM78 Series 10Hz, 1kHz, 100kHz:



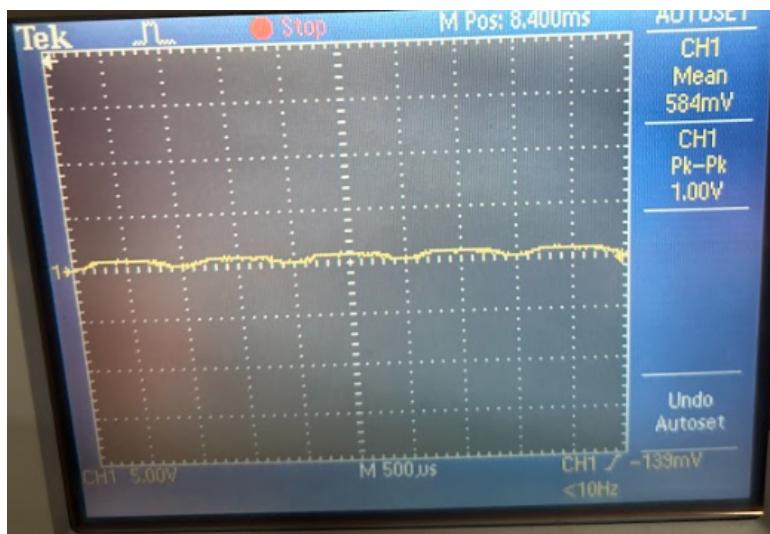
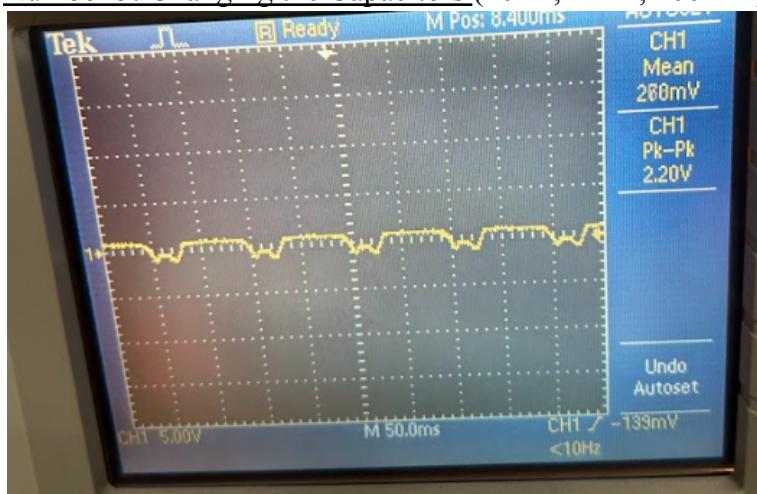


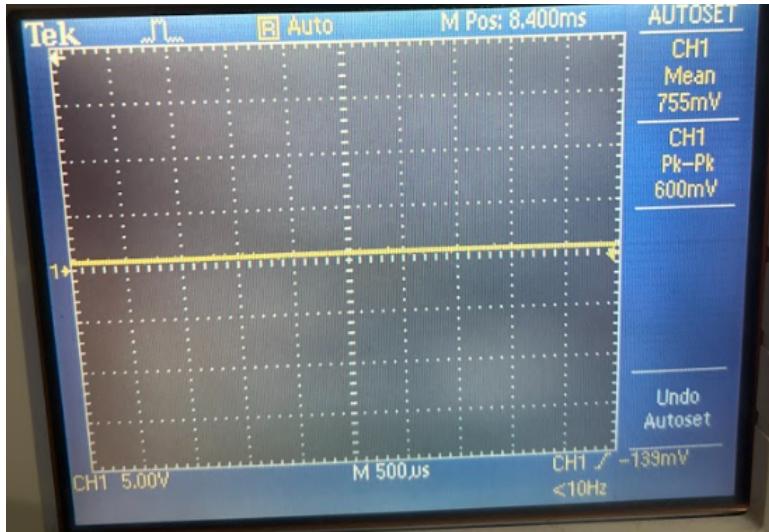
LM79 Series 10Hz, 1kHz, 100kHz:





Number 5: Changing the Capacitors (10Hz, 1kHz, 100kHz)





3. Encountered Problems

Didn't encounter many problems.

4. Questions and Answers

Question 1: Based on our measurements from the experiment, we can see that for #3, it will be used as a basis for measuring our other results. In 1.4, it's clear that as the frequency increases that the oscilloscope line becomes straighter which would signify that the voltage is becoming more constant. In 1.5, we can see that as higher capacitance values were used, the waveforms did not change much.

5. Conclusions

This lab served as an introduction to how voltage regulators are used and what effect regulators can have on a circuit with various frequencies and capacitances. I also learned how to properly wire a regulator and implement it on a breadboard. I also got a chance to compare regulators and see how they differ.