Chapter 12. Meeting 12, Discussion and Workshop

12.1. Announcements

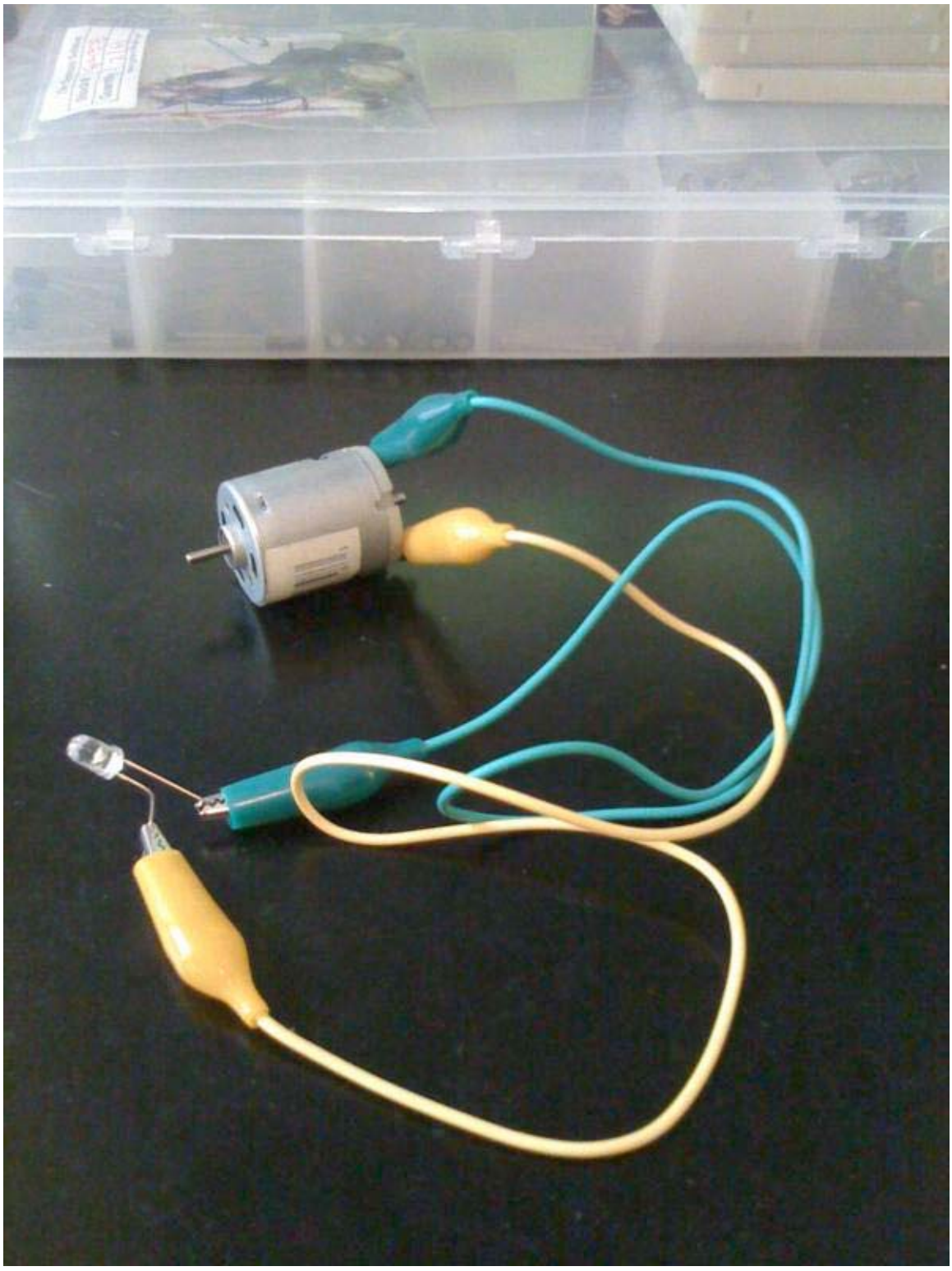
- Quiz next Thursday

12.2. Reading: Bimber

- Bimber, B. 1990. "Karl Marx and the Three Faces of Technological Determinism." *Social Studies of Science* 20(2): 333-351.
- What is technological determinism?
- Bimber describes three accounts of technological determinism: Norm-Based Accounts, Logical Sequence Accounts, Unintended Consequences. How do these accounts differ?
- For Bimber, which of the three acounts meets the requirements technological determinism, and why?
- What are some of examples of deterministic ideas about technology in common discourse?
- Does the history of music technology support notions of technological determinism?

12.3. Hardware Hacking: Motor as Dynamo

- Using a motor as a dynamo to drive an LED



12.4. Hardware Hacking: Dynamo as Oscillator

- A Telharmonium Lite (Collins 2009, p. 20)

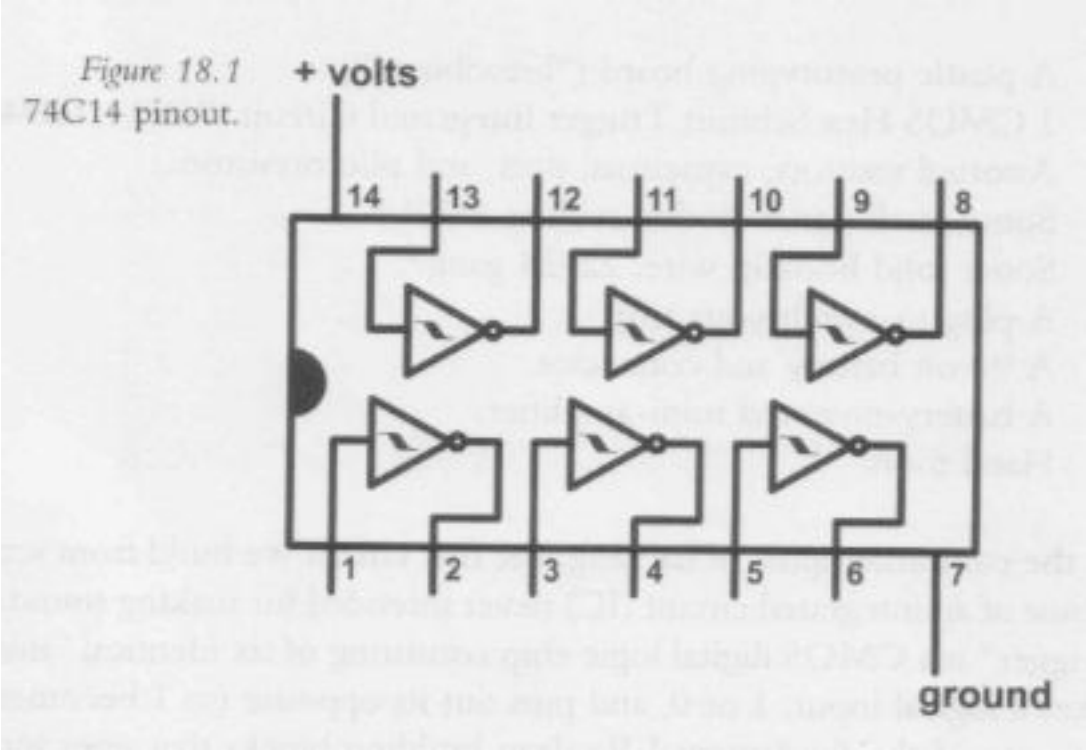
12.5. Hardware Hacking: Humbuckers

- Exploring the sound of motors, piano strings, and portable electronics

12.6. Hardware Hacking: Simple Oscillator

- The Hex Schmitt Trigger digital logic chip: six inverters on a chip

- Given an input of 1 (9 volts) output 0 (0 volts) and vica versa
- The resistor permits feedback, causing alternation between 9 and 0 volts and producing a squarish sound wave
- 74C14 Pins



- Using a resistor to create feedback oscillation

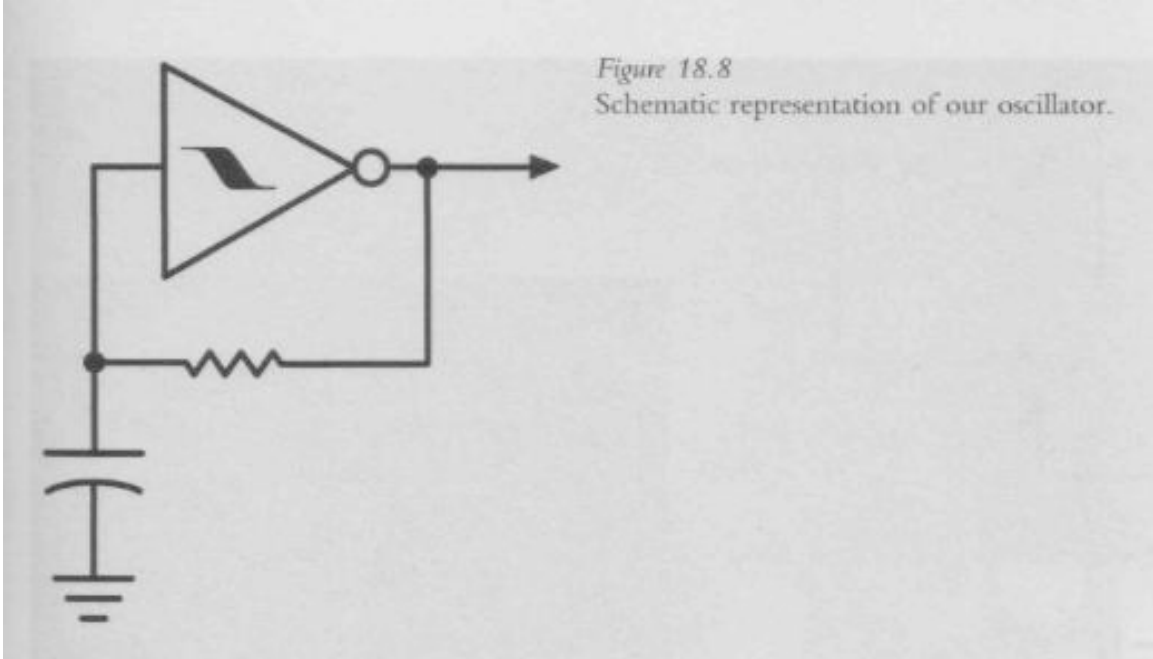
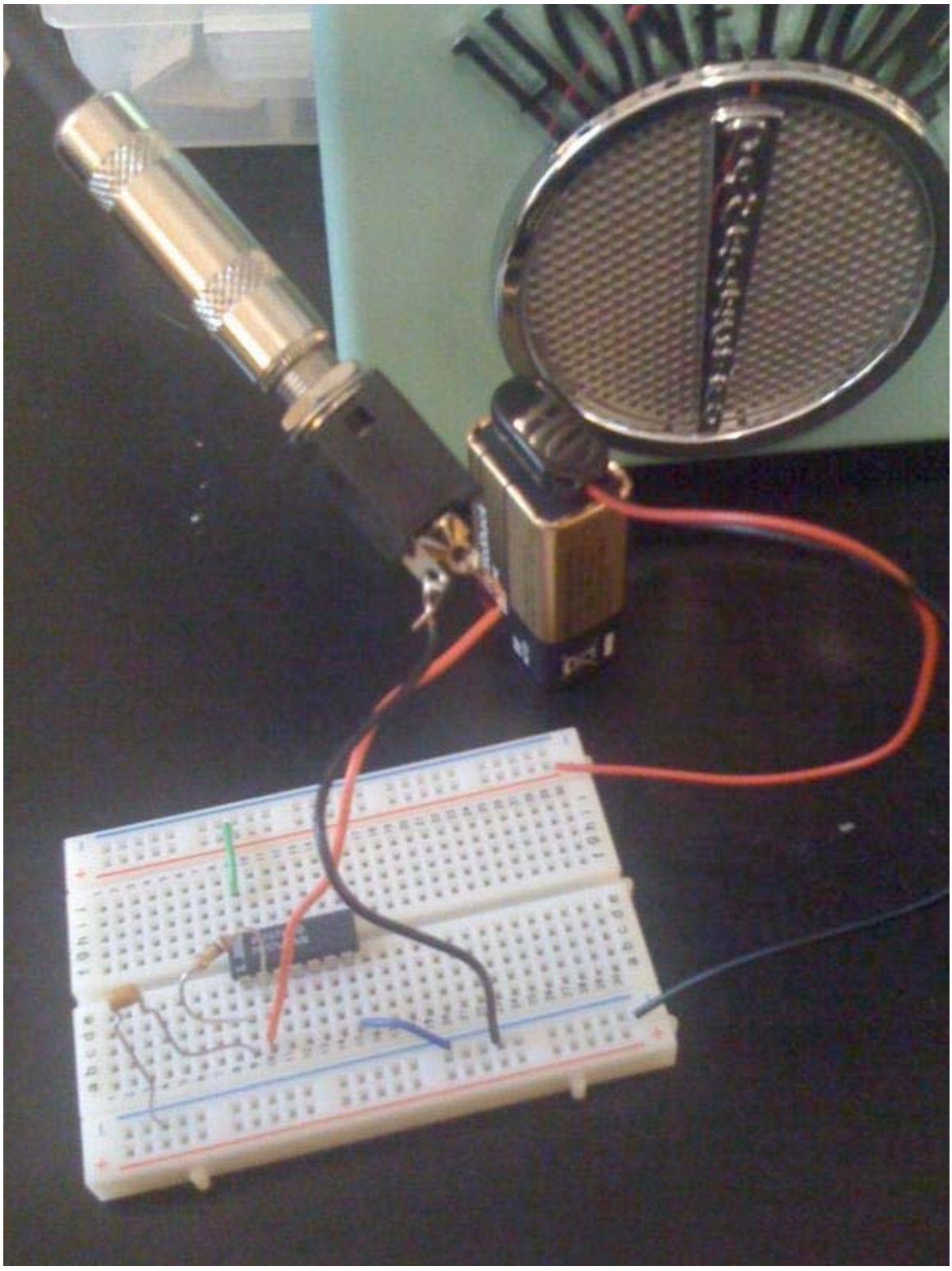


Figure 18.8
Schematic representation of our oscillator.

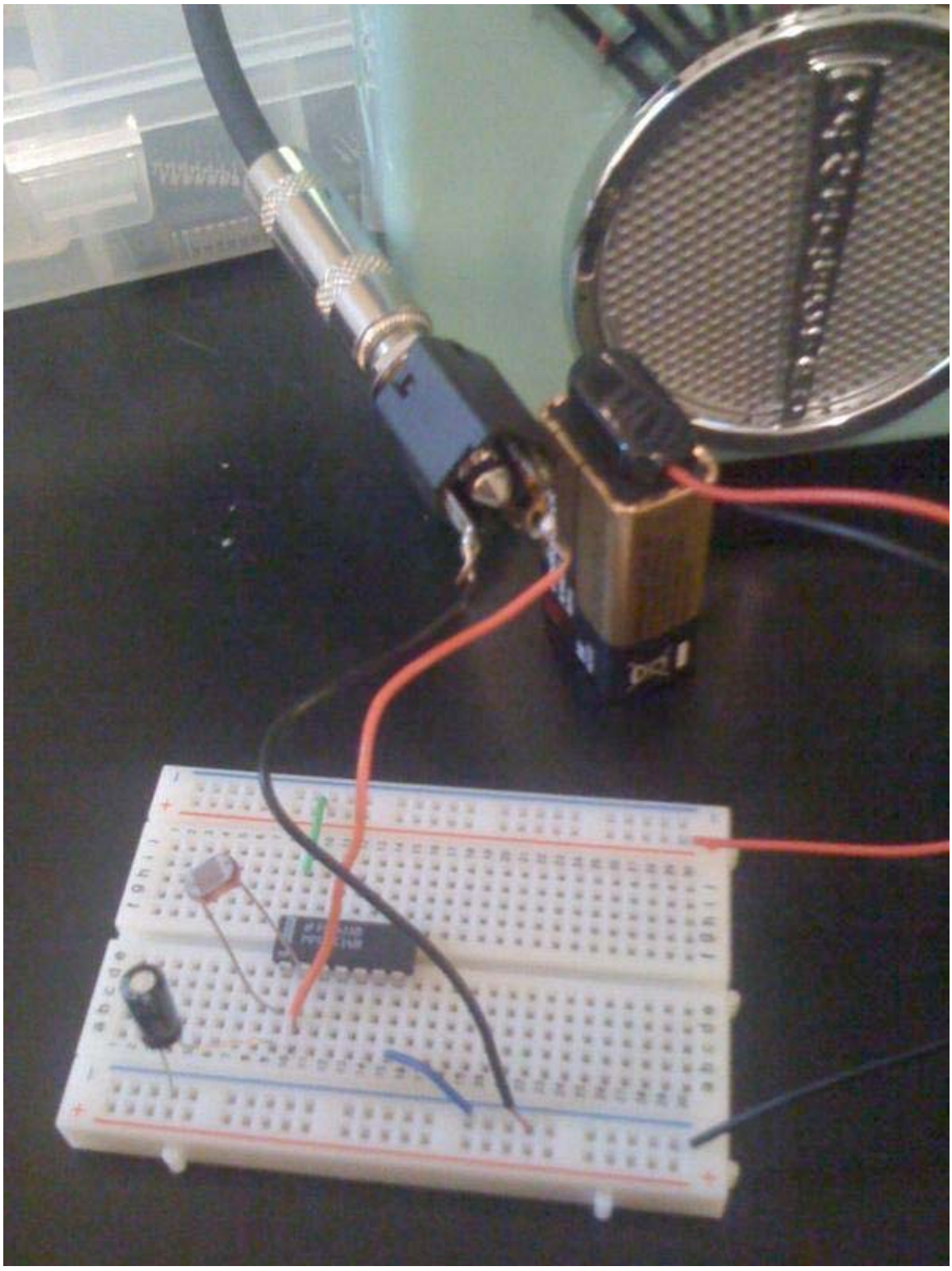
- Breadboard



12.7. Hardware Hacking: Photocell Controlled Oscillator

- Varying resistance changes the frequency of oscillation

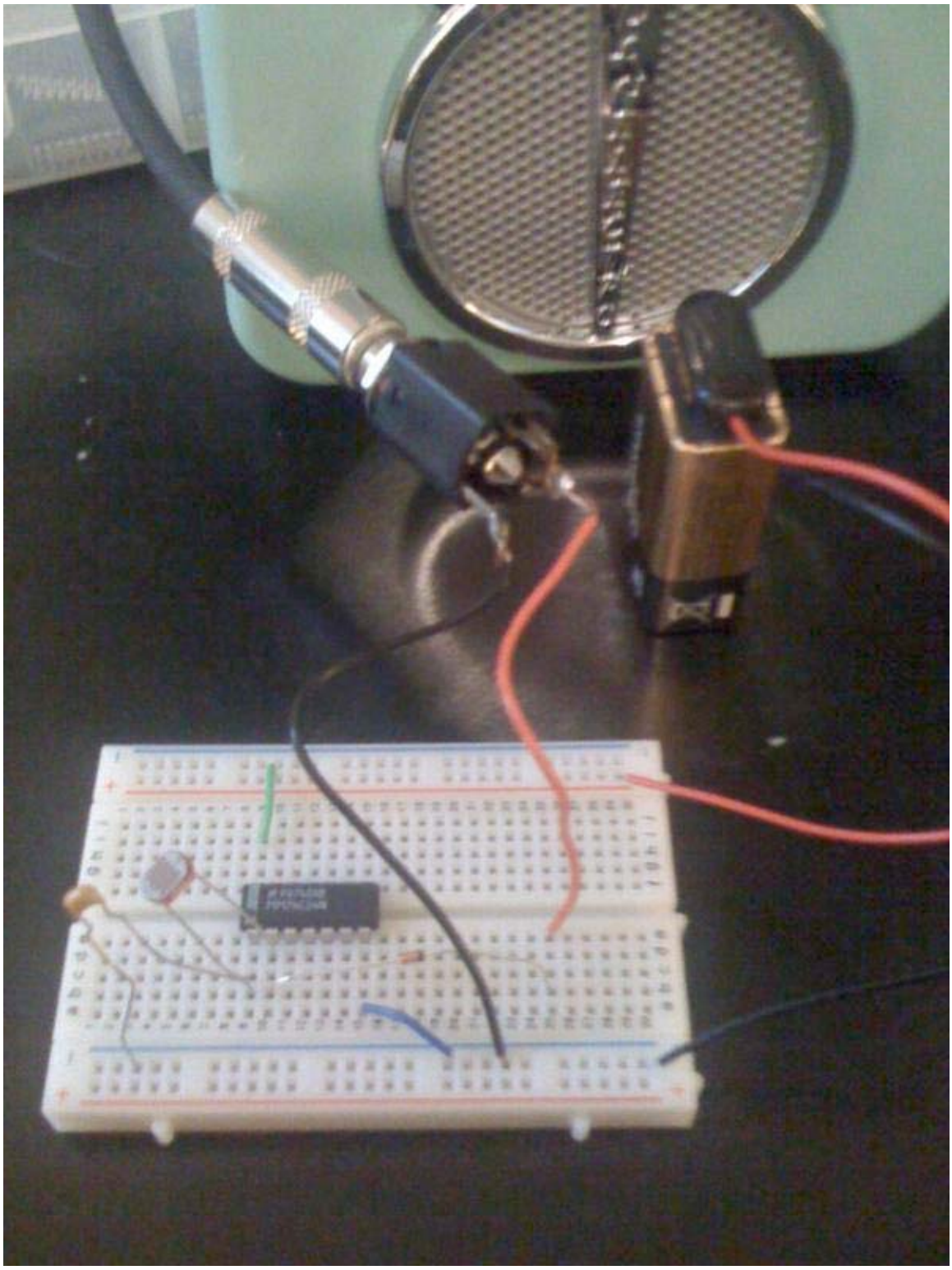
- A photoresistor decreases resistance with more light, increases resistance with less light
- Varying the capacitor sets the range of oscillation
- Breadboard



12.8. Hardware Hacking: Oscillator through Diode

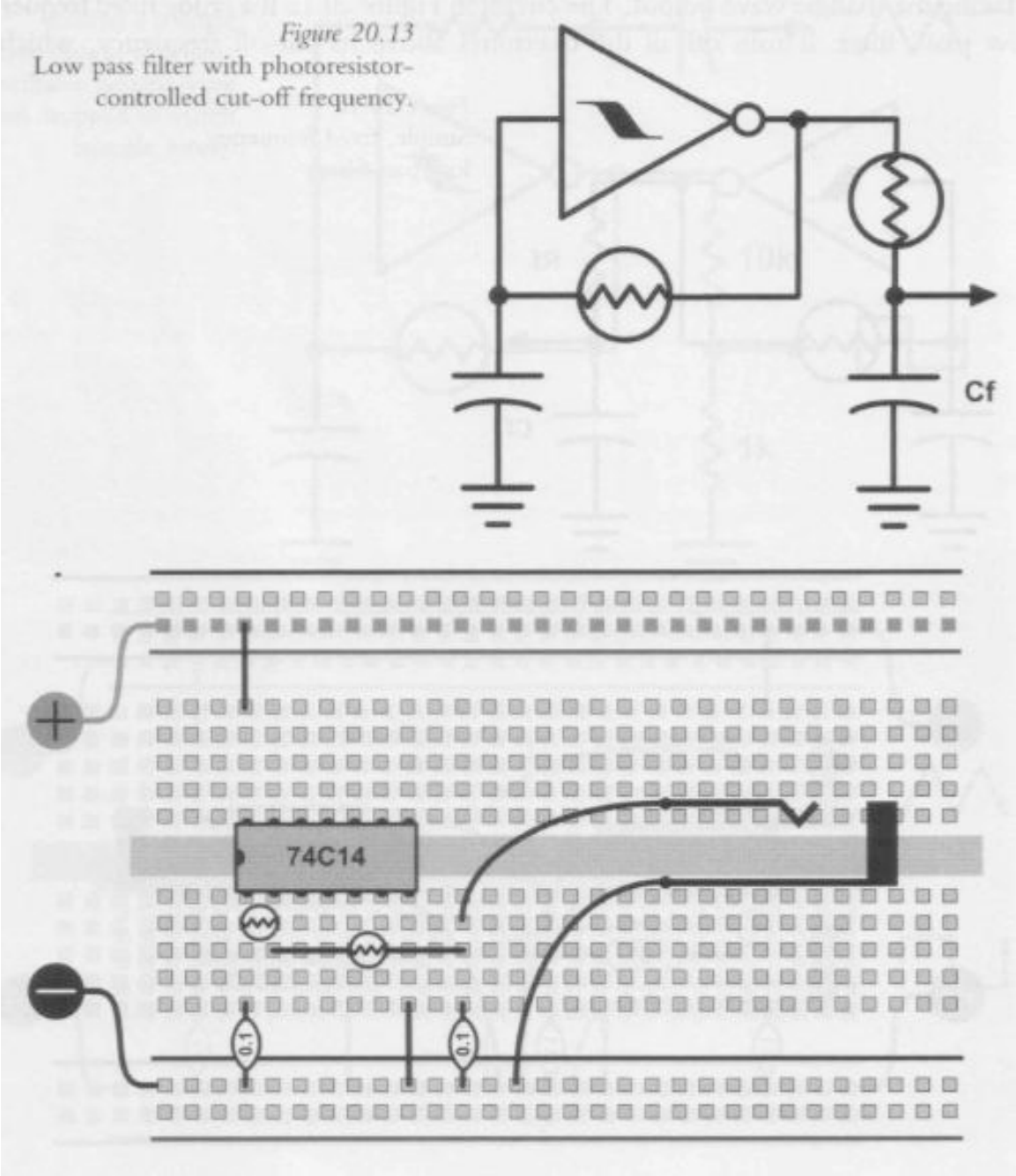
- Pasing the signal through a diode alters the timbre

- Breadboard

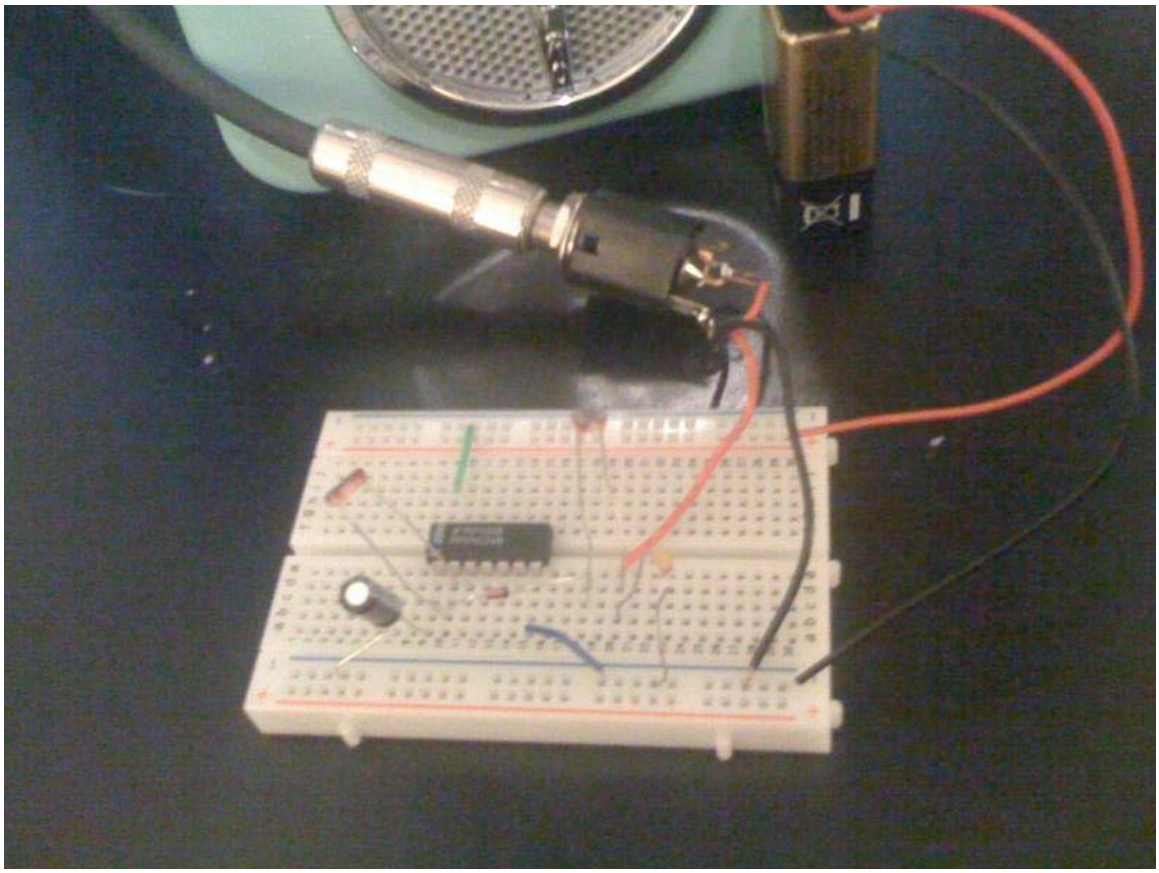


12.9. Hardware Hacking: Oscillator with Low Pass Filter

- A basic low pass filter using a photoresistor and a capacitor



- Breadboard



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