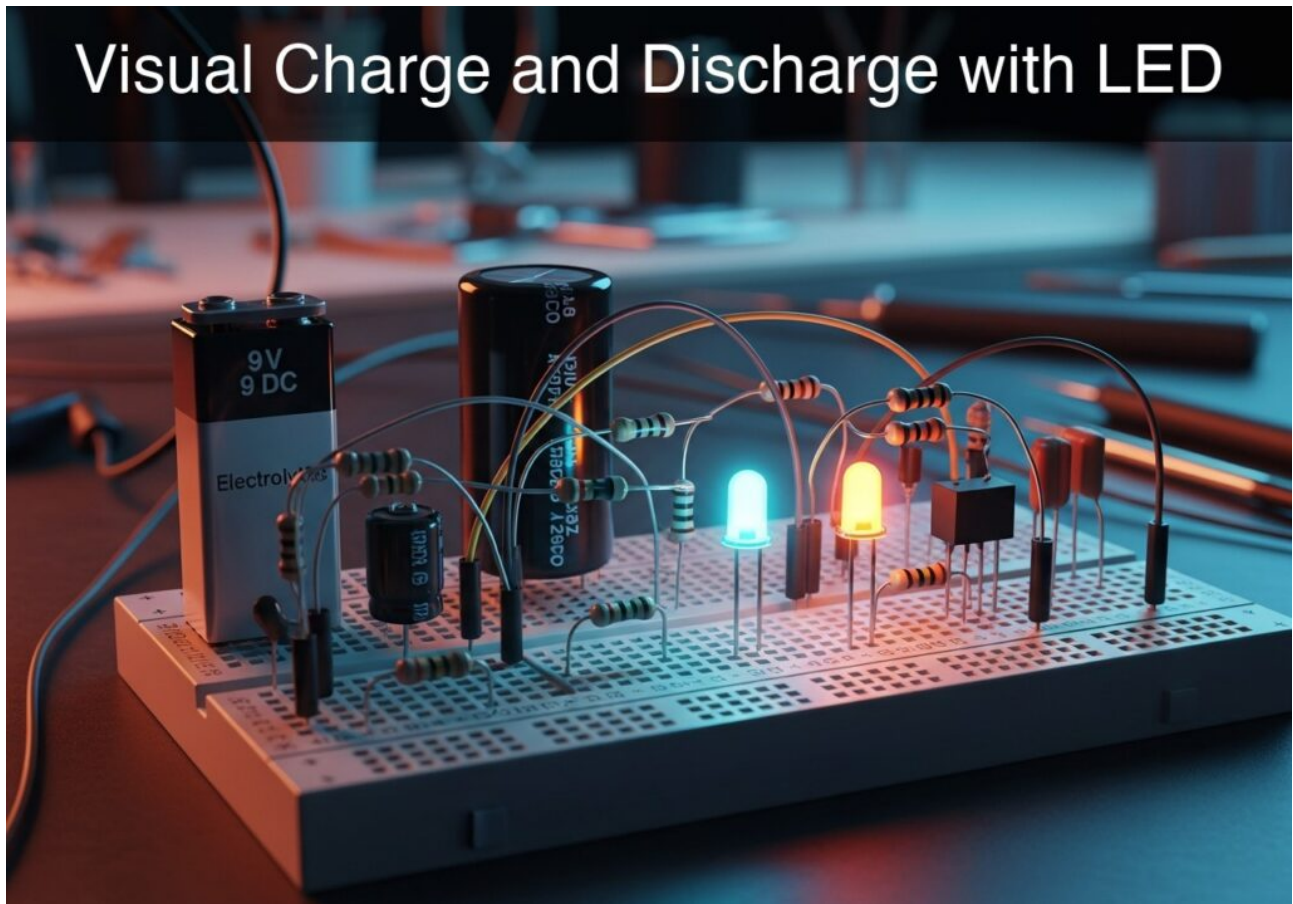


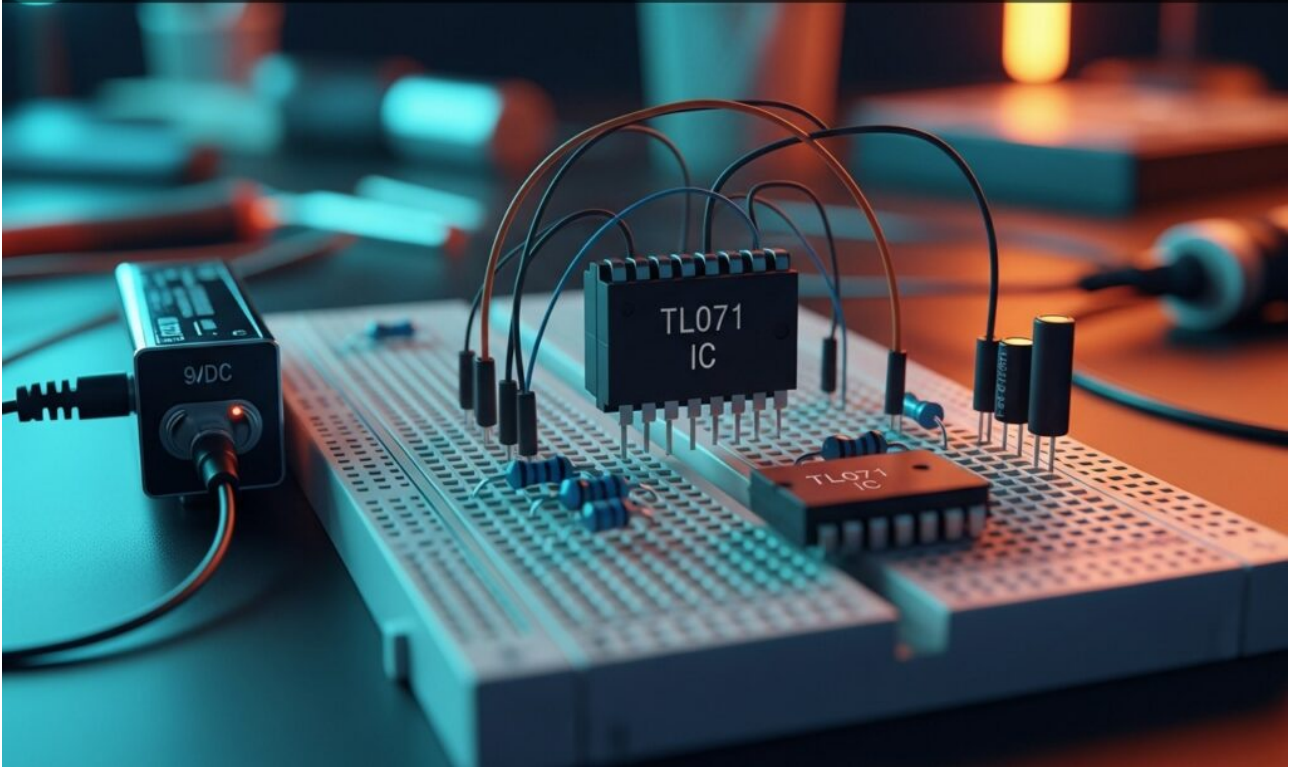
Practical case: Visual Charge and Discharge with LED



Explore Analog Electronics by building a circuit where a Capacitor keeps an LED fading out after power loss, visualizing energy storage and RC time constants.

Practical case: Modulated light audio receiver

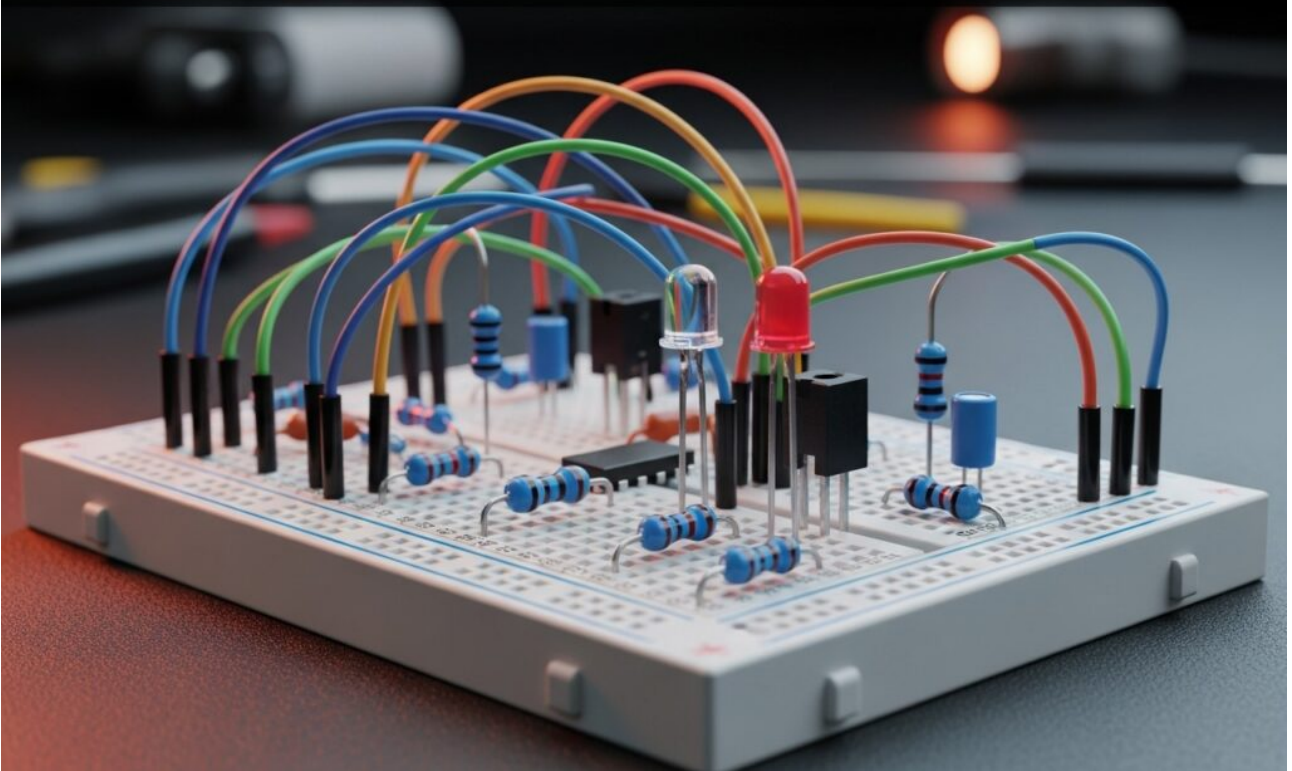
Modulated light audio receiver



Master Analog Electronics by building an optical audio receiver. Use a Photodiode and TIA to demodulate light beams into clear, isolated audio signals.

Practical case: Optical tachometer for DC motor

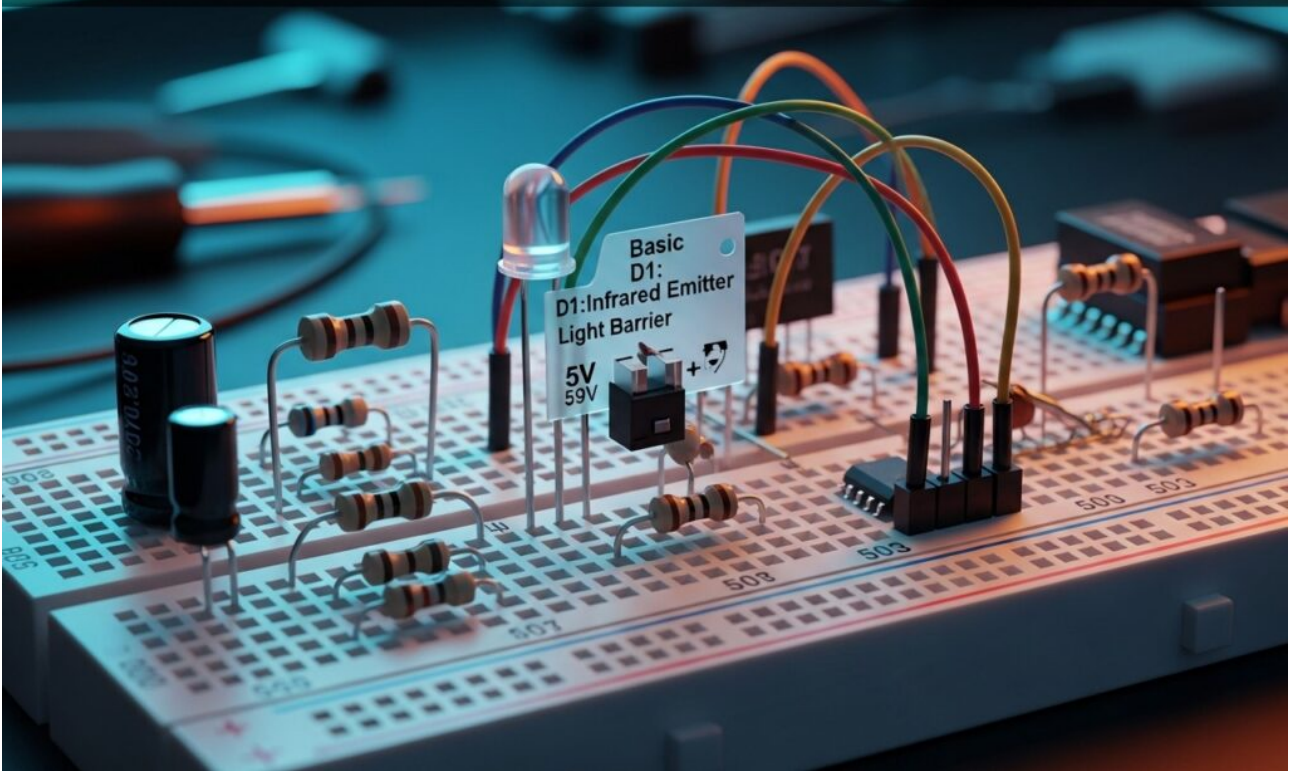
Optical tachometer for DC motor



Master Analog Electronics by building a non-contact RPM sensor. Use a Photodiode to detect rotation and generate clean digital pulses for motor speed control.

Practical case: Basic Infrared Light Barrier

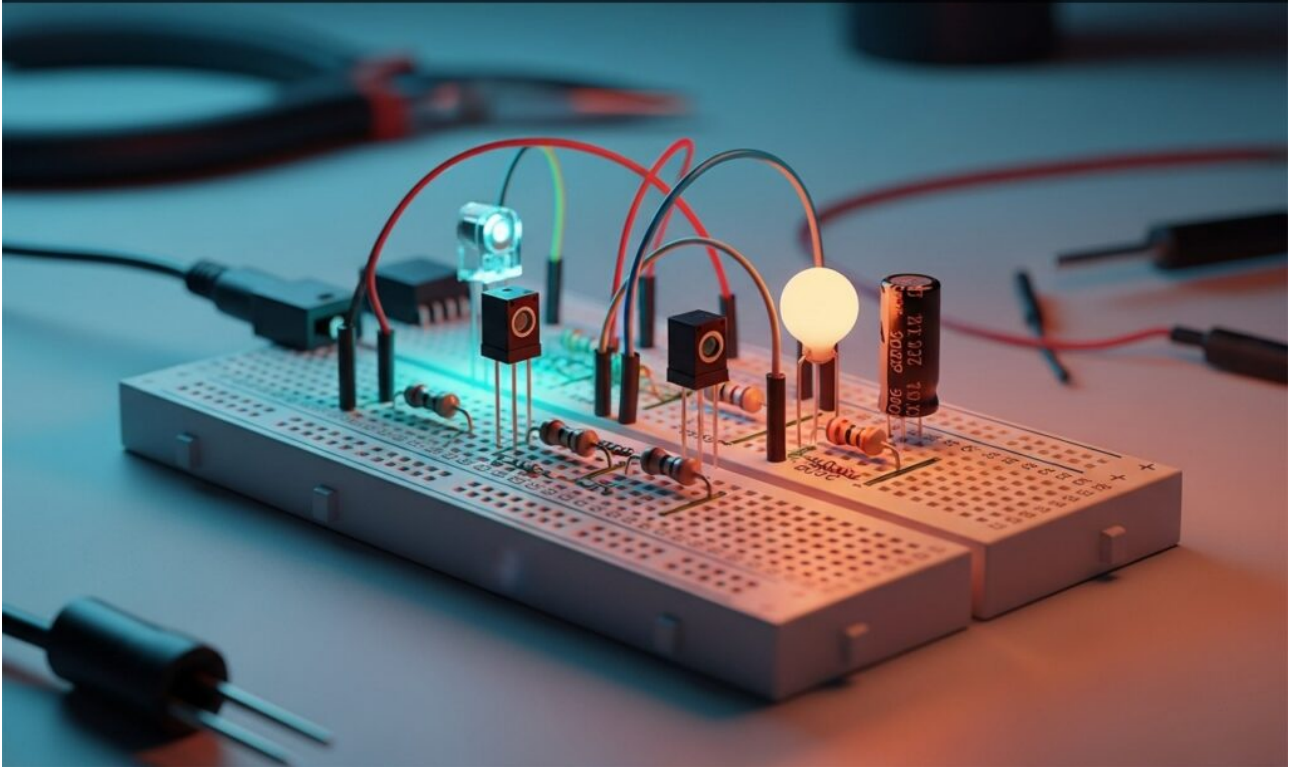
Basic Infrared Light Barrier



Master Analog Electronics by building a light beam alarm. Use a Photodiode to detect interruptions and trigger a 0.7V signal that lights up a security LED.

Practical case: Photodiode vs photoresistor comparison

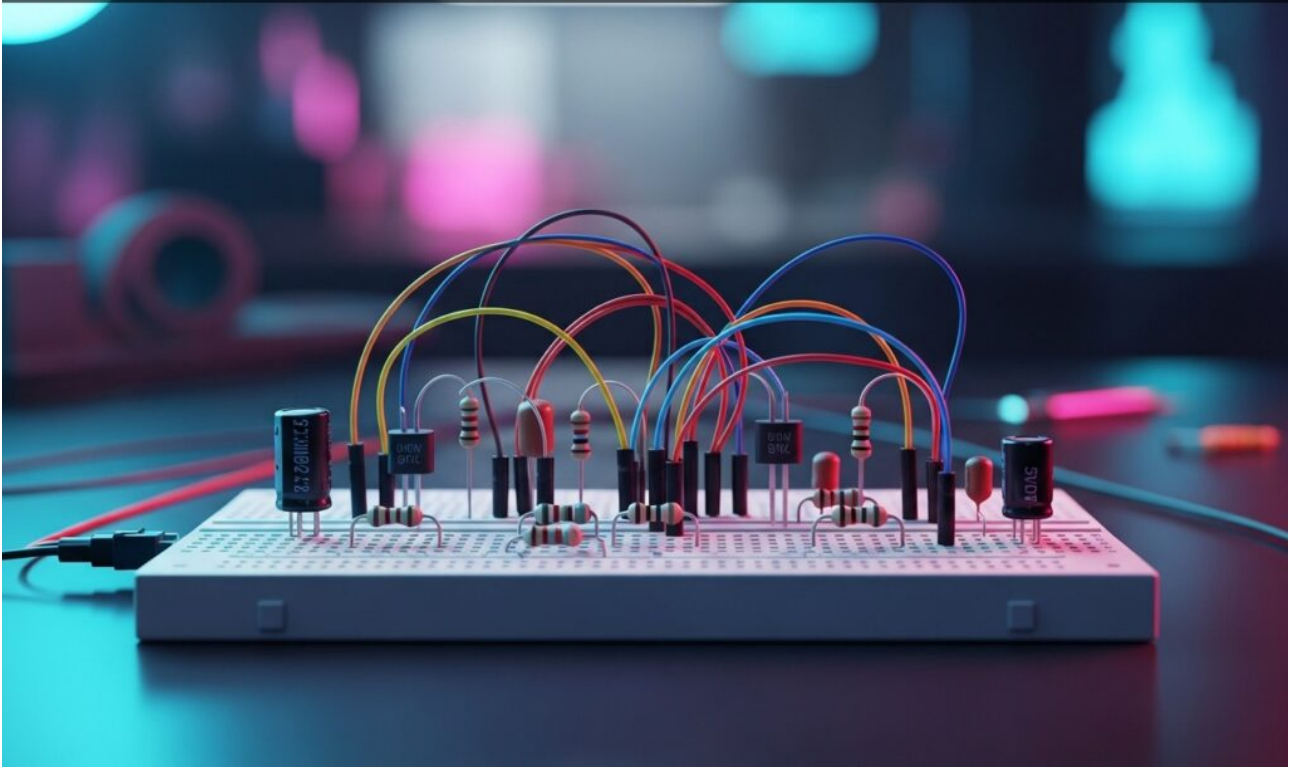
Photodiode vs photoresistor comparison



Master Analog Electronics by comparing sensor speeds. Build a circuit using a Photodiode and LDR to observe sharp square waves versus slow voltage curves.

Practical case: Simple twilight switch

Simple twilight switch



Learn Analog Electronics by building a dark sensor circuit. Use a Photodiode to switch an LED on when light drops, mastering transistor switching logic.