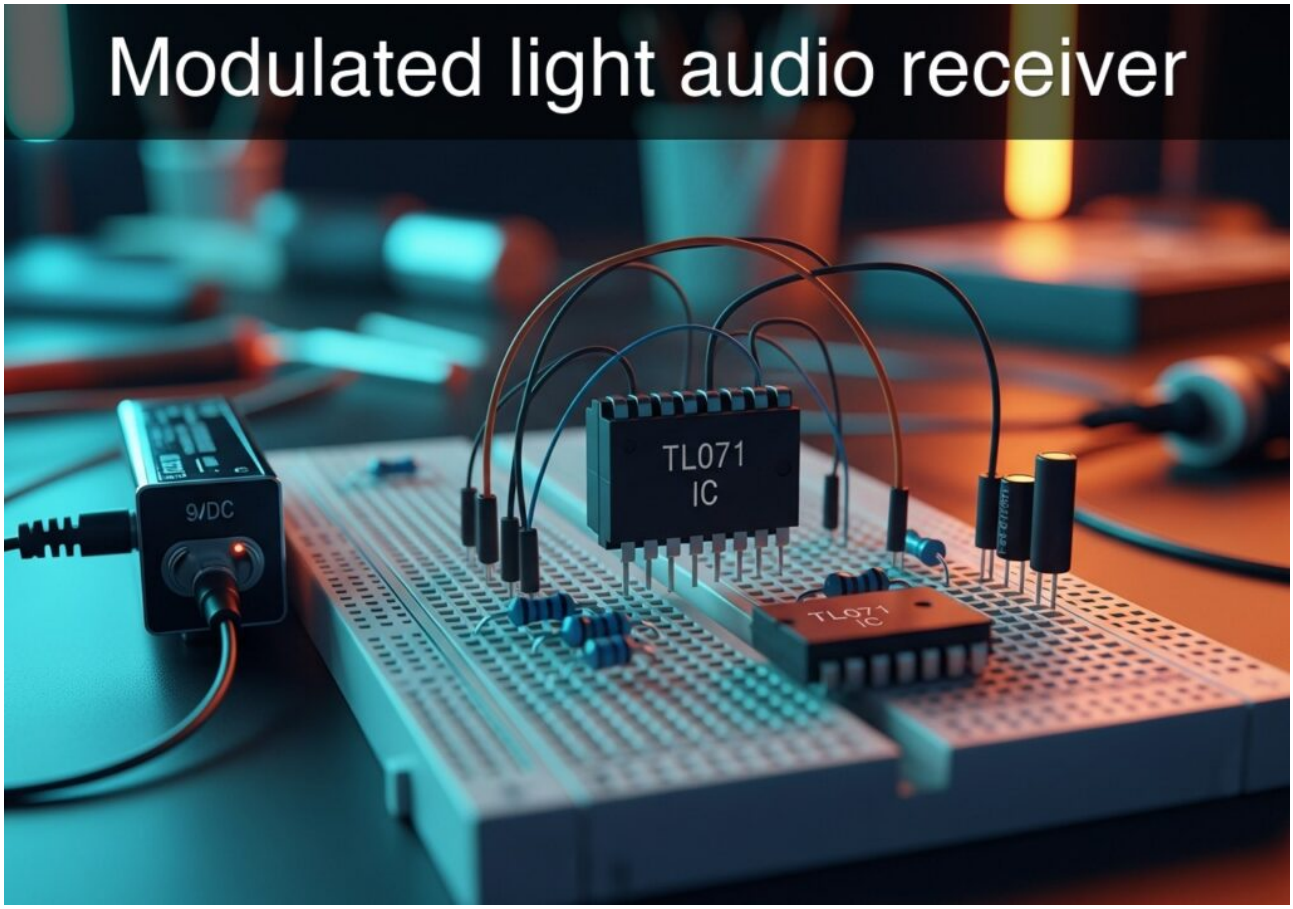
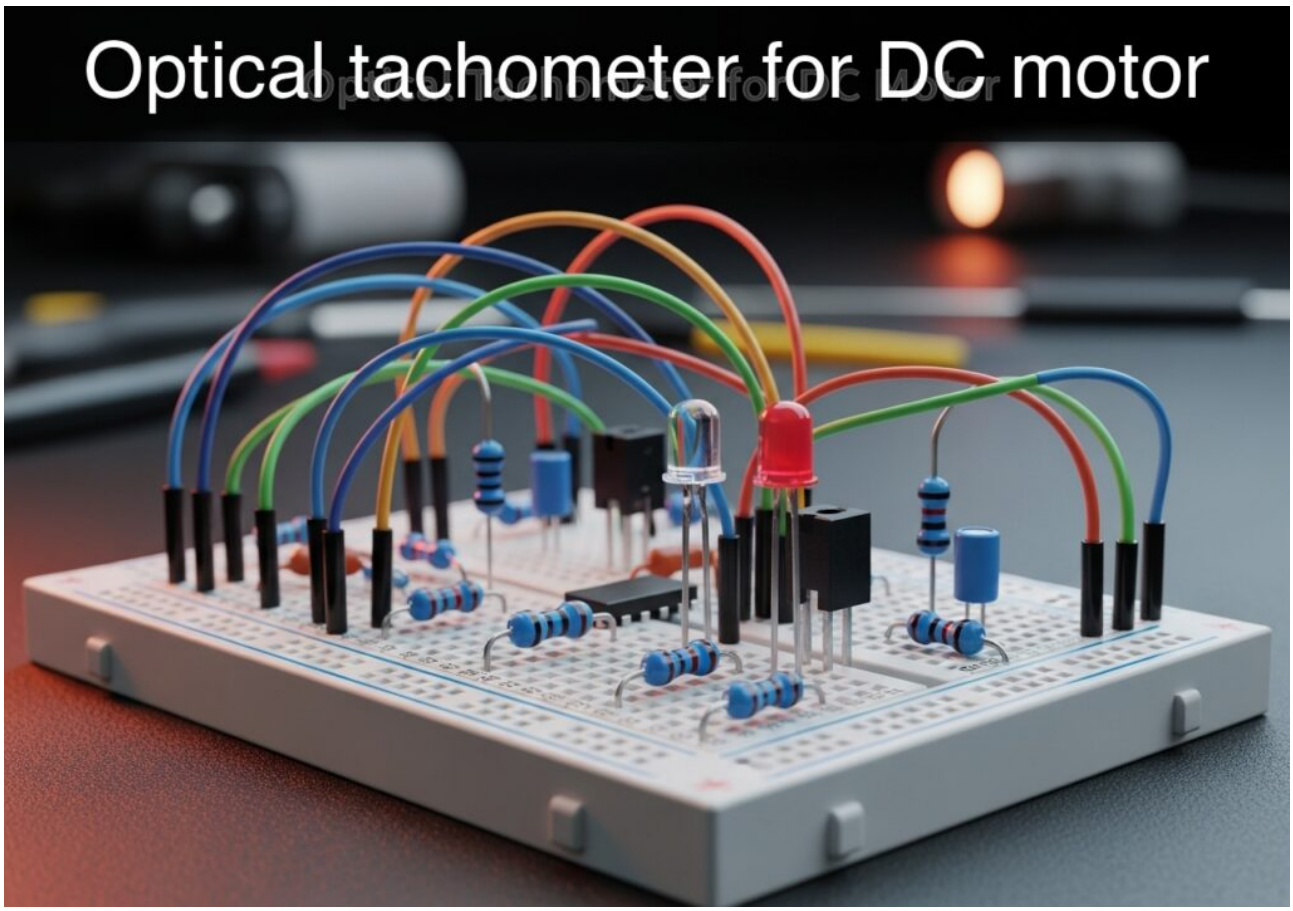
Practical case: Modulated light audio receiver



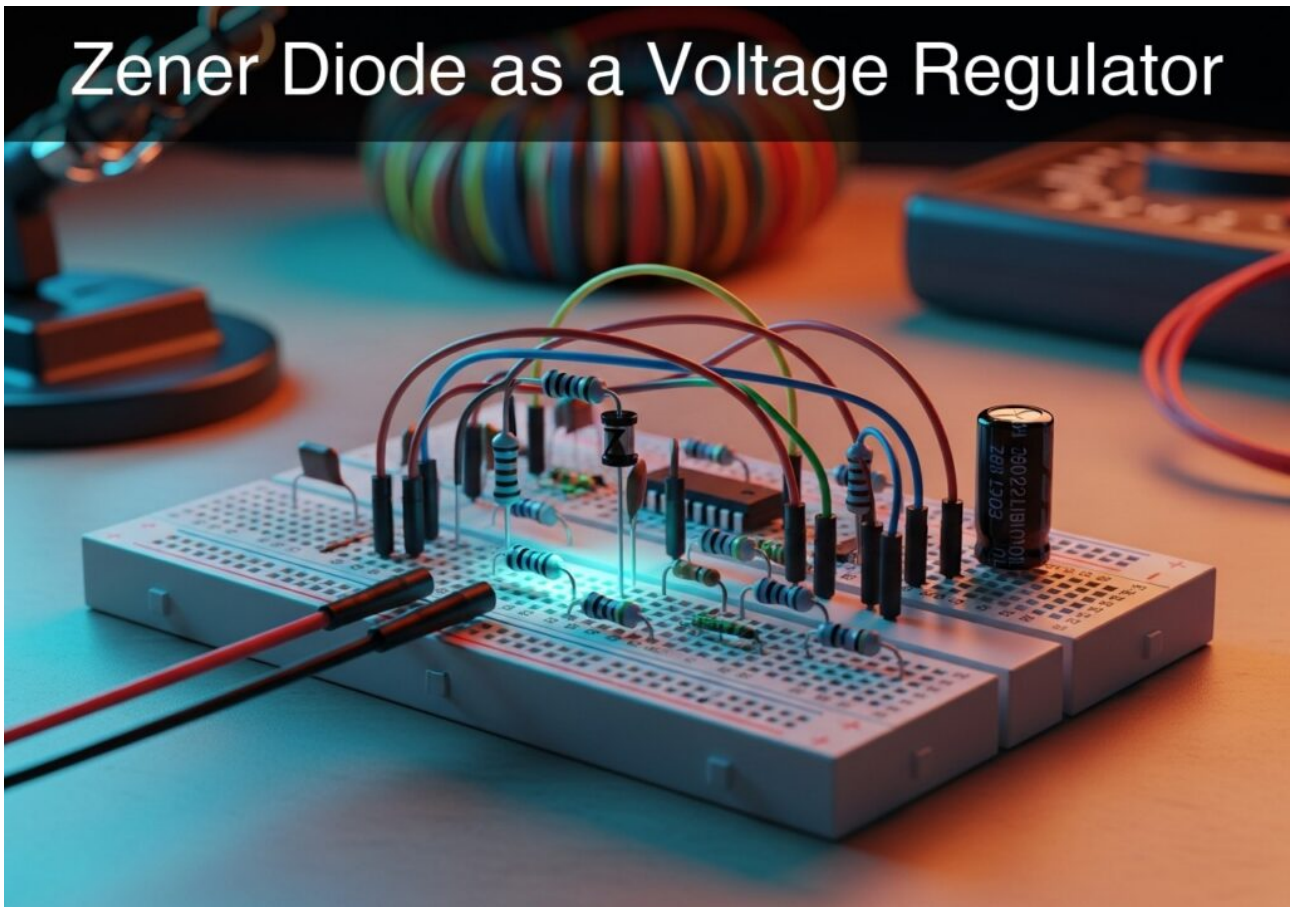
Master Analog Electronics by building an optical audio receiver. Use a Photodiode and TIA to demodulate light beams into clear, isolated audio signals.

Practical case: Optical tachometer for DC motor



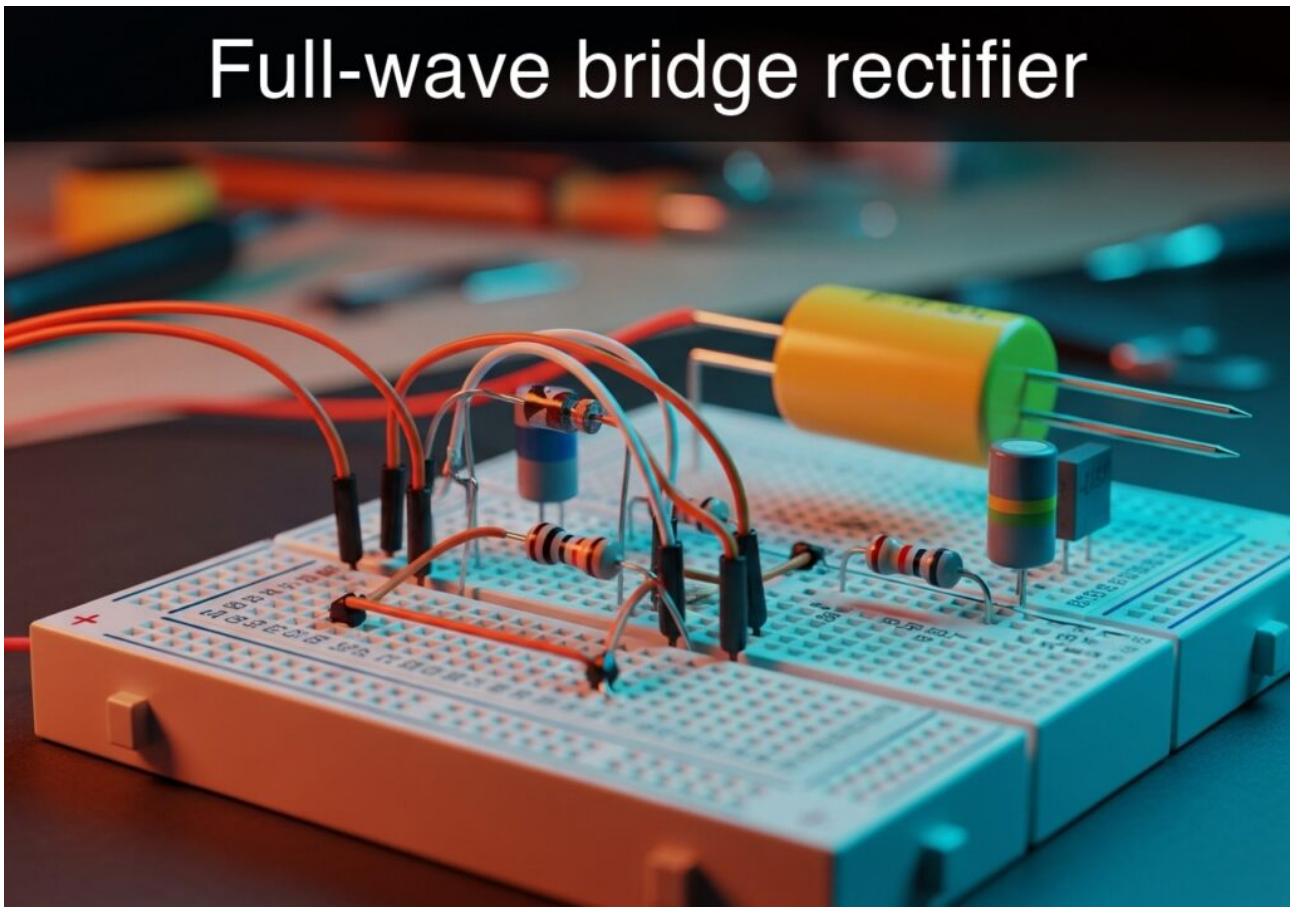
Master Analog Electronics by building a non-contact RPM sensor. Use a Photodiode to detect rotation and generate clean digital pulses for motor speed control.

Practical case: Zener Diode as a Voltage Regulator



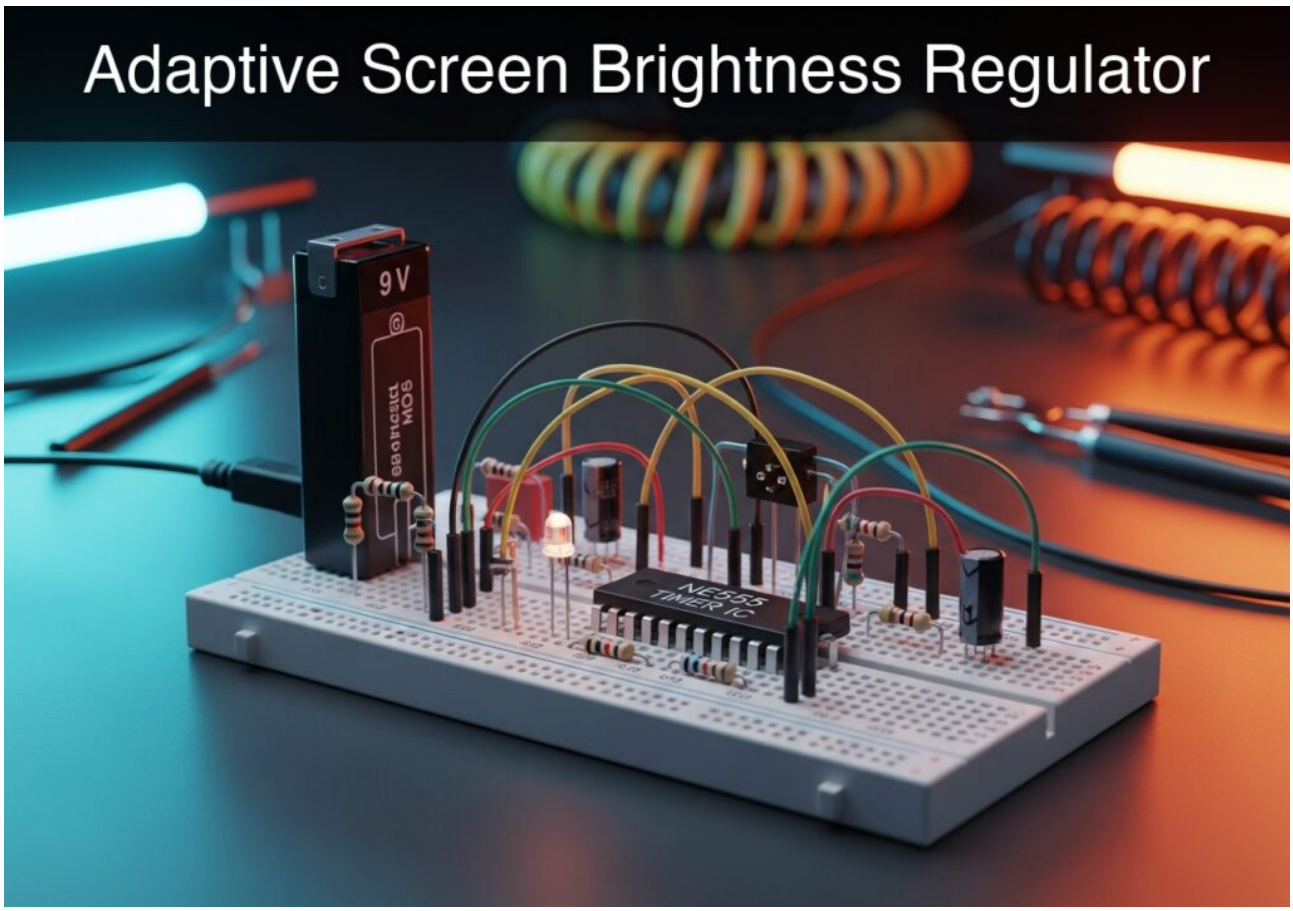
Master Analog Electronics by designing a Zener Diode voltage stabilizer. Build a circuit to clamp output at 5.1V and protect loads from voltage spikes.

Practical case: Full-wave bridge rectifier



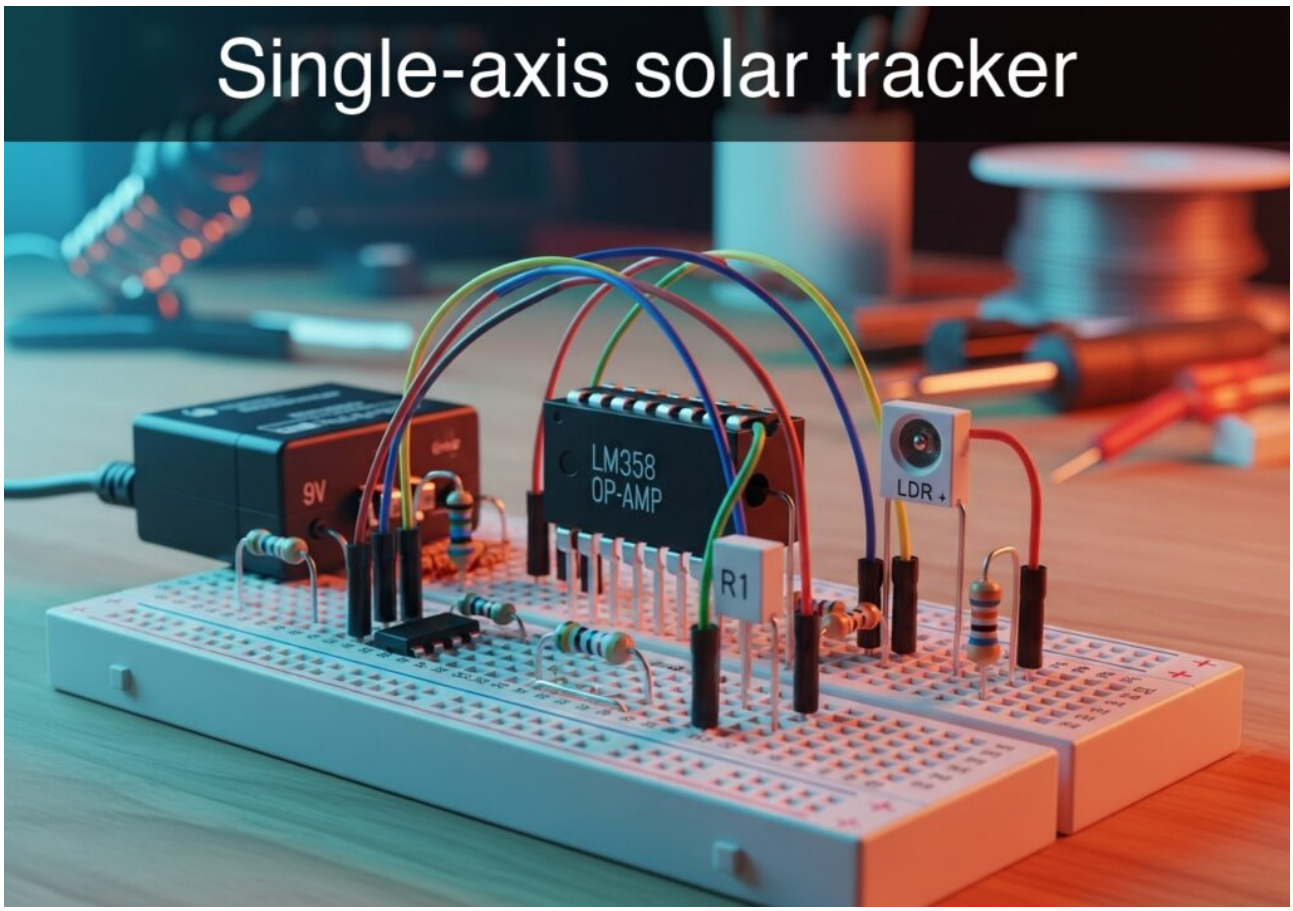
Master Analog Electronics by building a Diode Graetz bridge. Convert AC to pulsating DC, double the frequency to 120Hz, and measure real voltage drops.

Practical case: Adaptive Screen Brightness Regulator



Master Analog Electronics by building a smart dimmer. Use a Photoresistor and 555 timer to auto-adjust LED brightness via PWM based on ambient light levels.

Practical case: Single-axis solar tracker



Master Analog Electronics by building a sun seeker circuit. Use a Photoresistor pair to drive a motor that actively tracks the brightest light source.