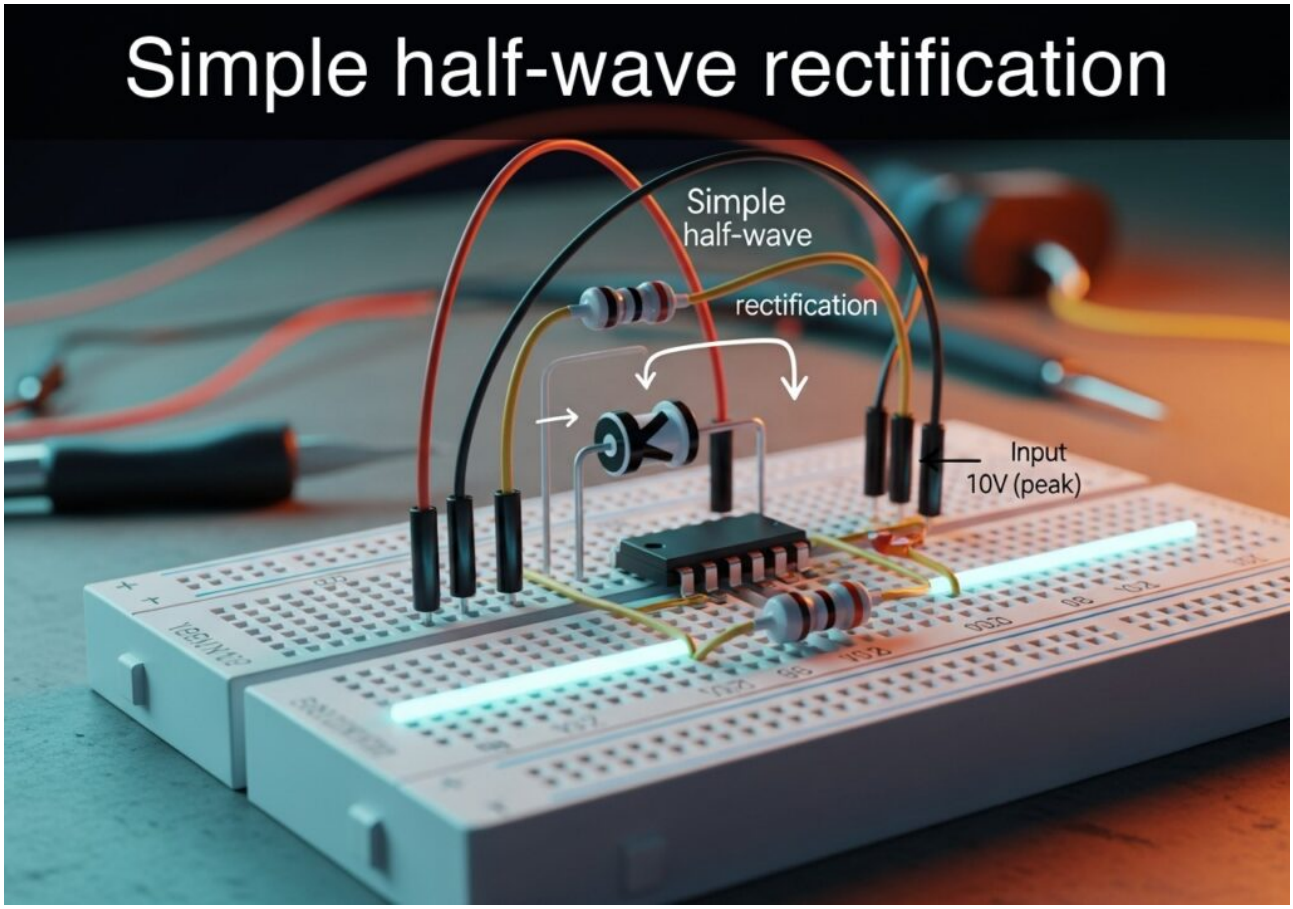
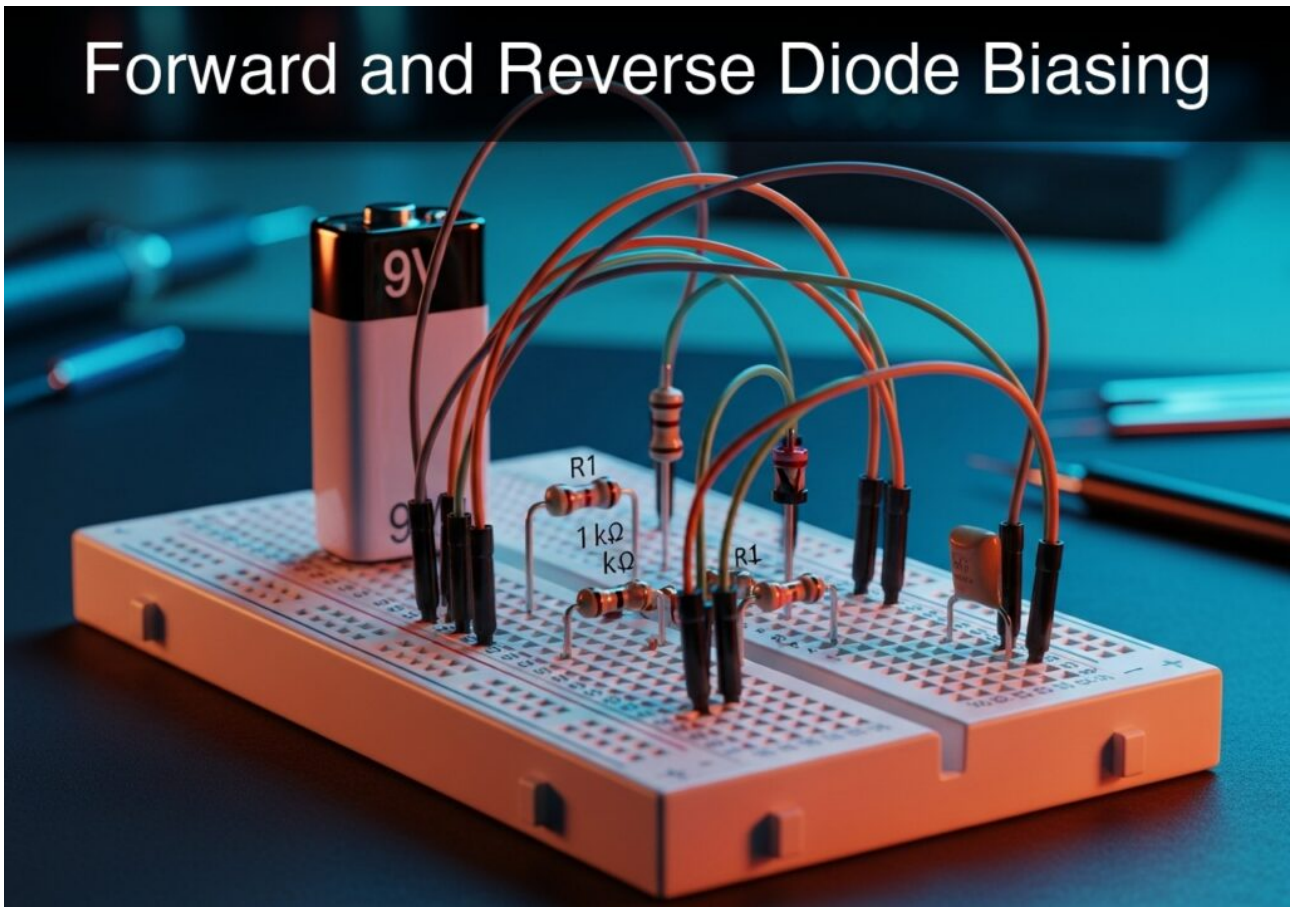
Practical case: Simple half-wave rectification



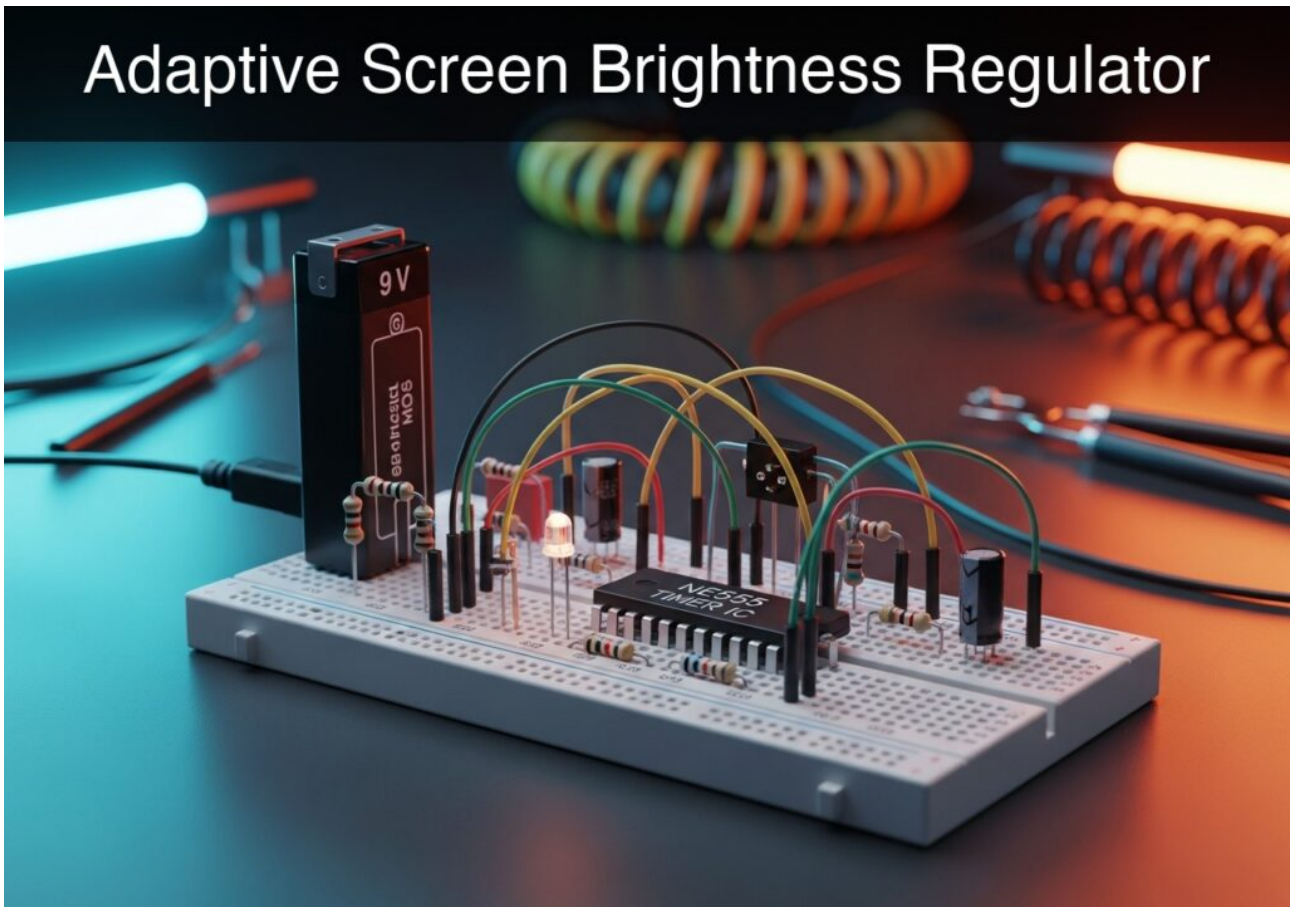
Master Analog Electronics by building a half-wave rectifier using a Diode. Convert AC to pulsating DC and visualize signal clipping on your oscilloscope.

Practical case: Forward and Reverse Diode Biasing



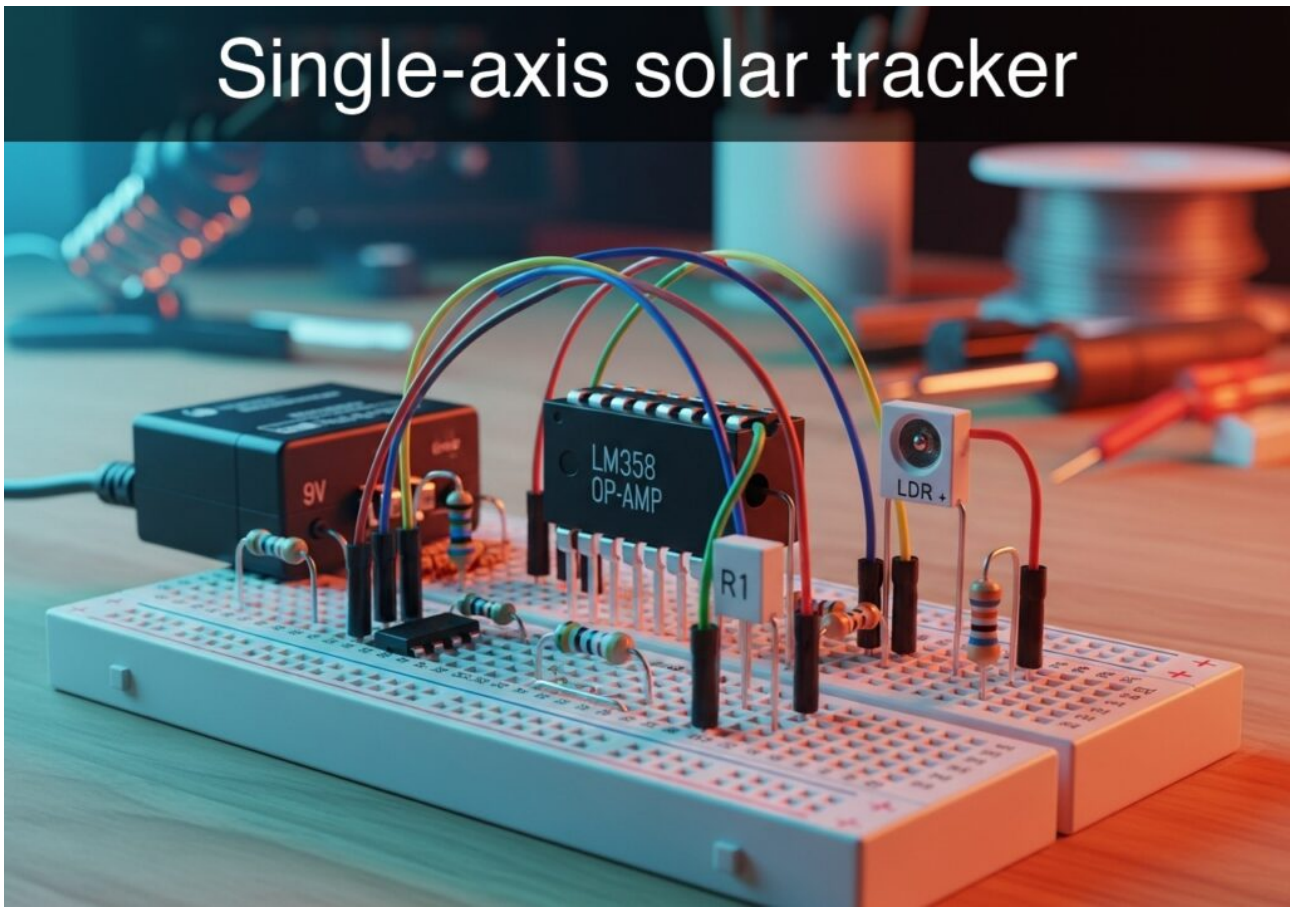
Master Analog Electronics by building a Diode circuit to verify unidirectional current flow. Measure 0.7V drops and block reverse polarity in this lab.

Practical case: Adaptive Screen Brightness Regulator



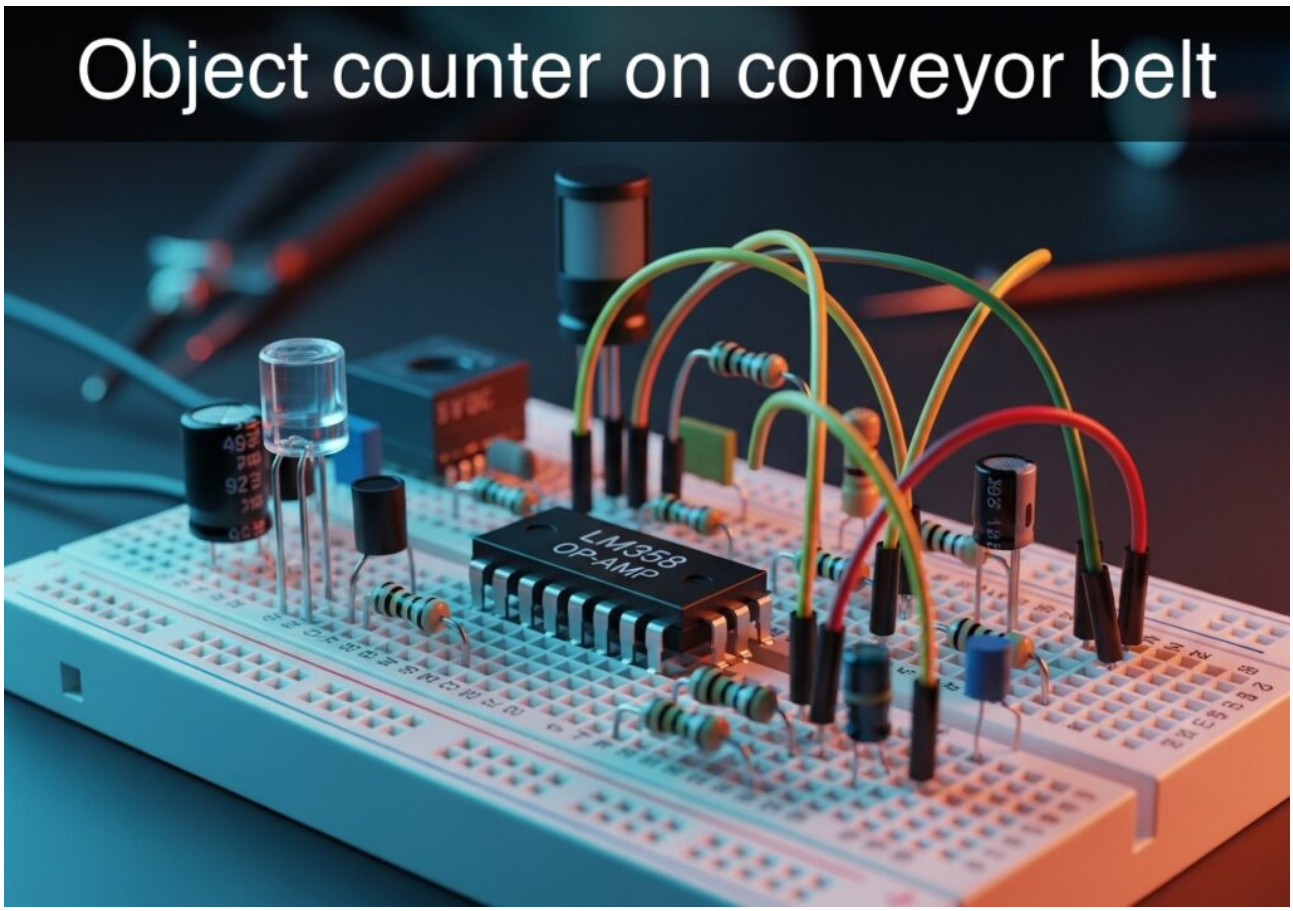
Master Analog Electronics by building a smart dimmer. Use a Photoresistor and 555 timer to auto-adjust LED brightness via PWM based on ambient light levels.

Practical case: Single-axis solar tracker



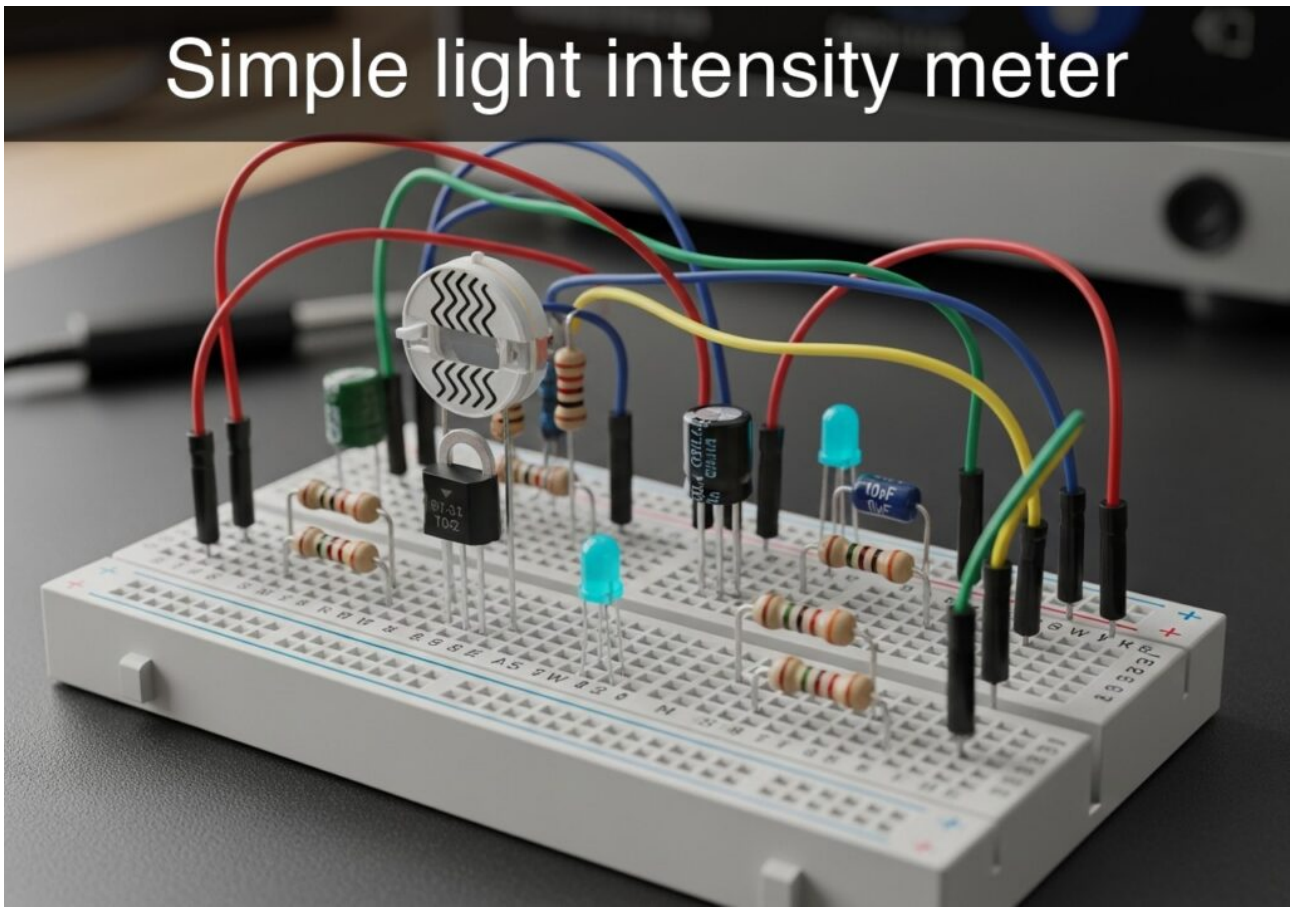
Master Analog Electronics by building a sun seeker circuit. Use a Photoresistor pair to drive a motor that actively tracks the brightest light source.

Practical case: Object counter on conveyor belt



Master Analog Electronics by building an optical barrier with a Photoresistor. Detect moving objects and trigger a precise logic signal when the beam is broken.

Practical case: Simple light intensity meter



Master Analog Electronics by building a dark sensor with a Photoresistor. Create a circuit where an LED automatically dims in bright light to save power.