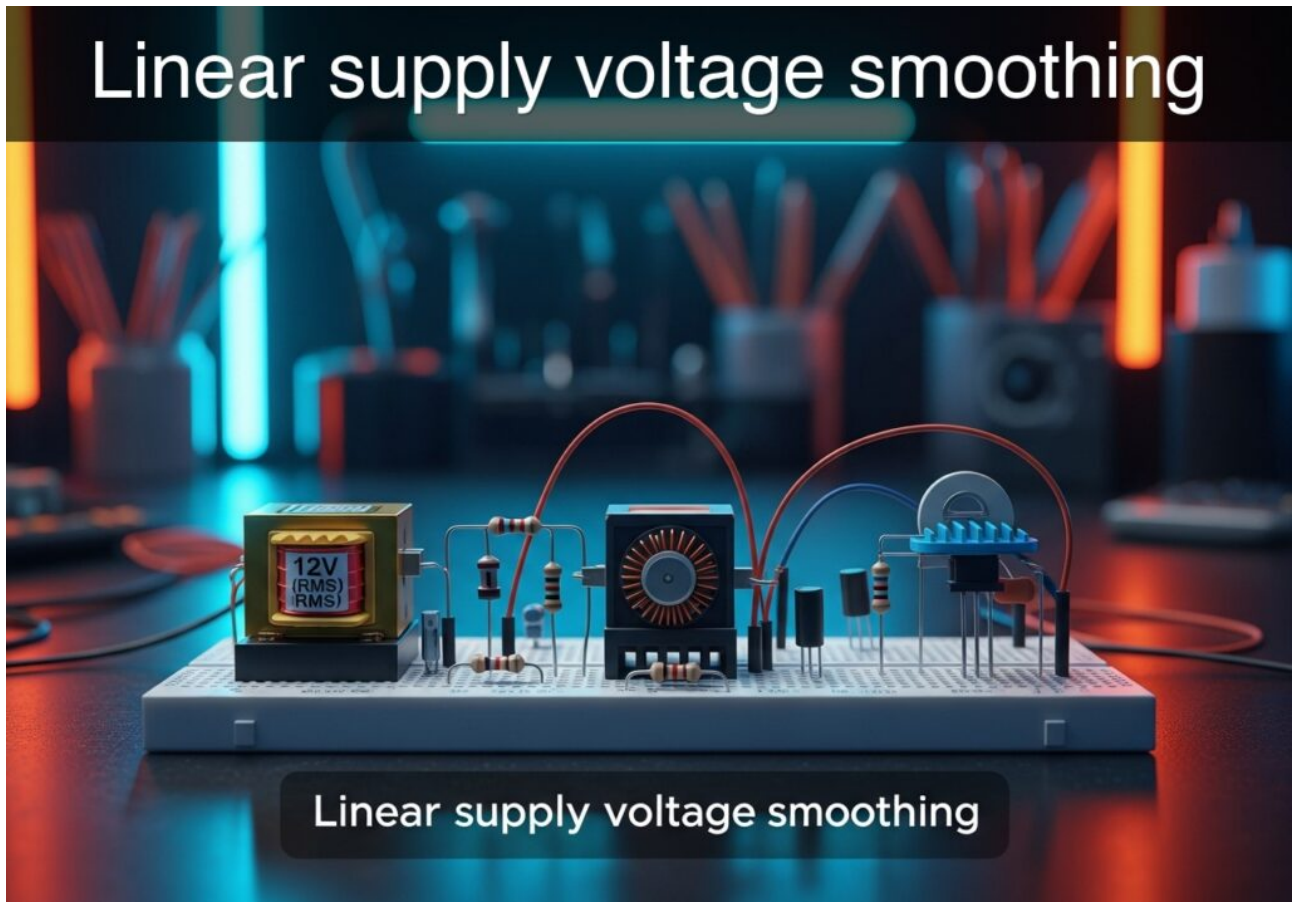


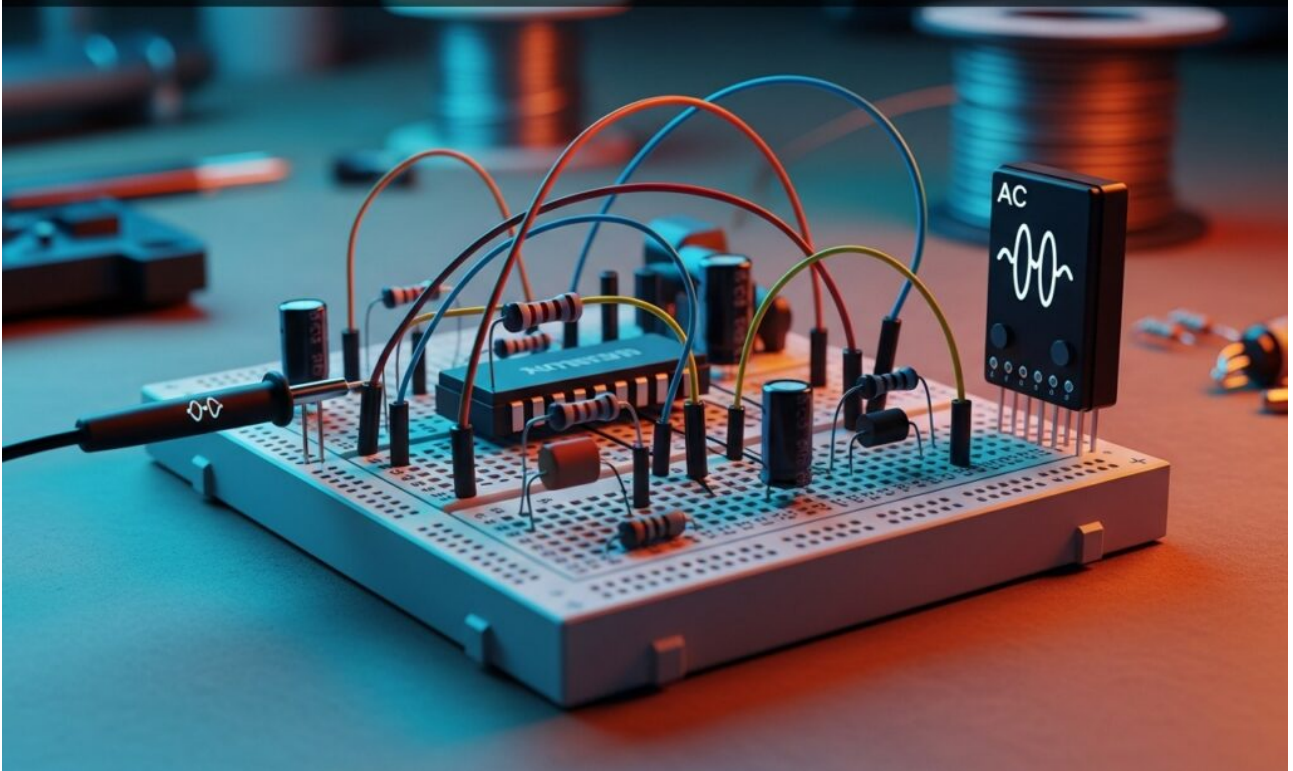
Practical case: Linear supply voltage smoothing



Master Analog Electronics by building a power supply filter. Test how Capacitor values reduce voltage ripple from 5V to 0.5V, ensuring stable DC for circuits.

Practical case: RC audio low-pass filter

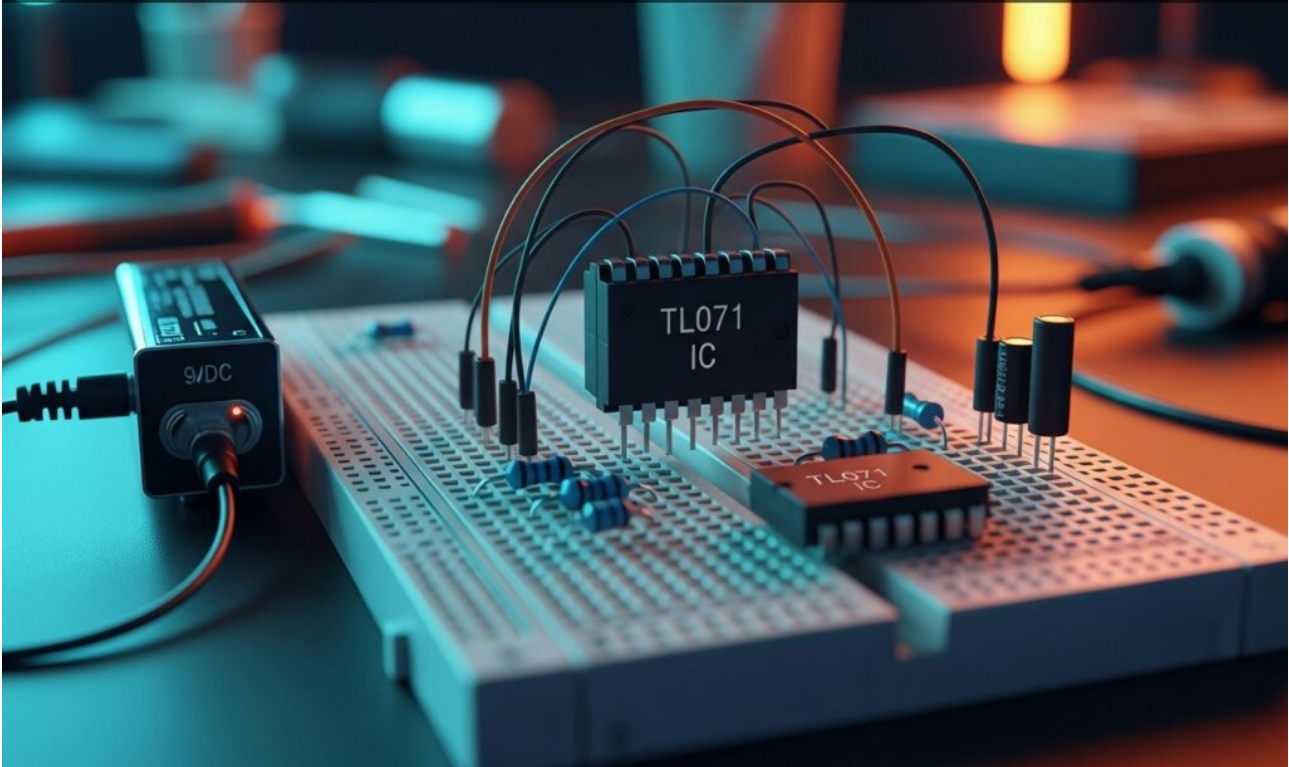
RC audio low-pass filter



Master Analog Electronics by building a Low-Pass Filter with a Capacitor. Learn to attenuate high frequencies and verify signal cutoff points in real circuits.

Practical case: Modulated light audio receiver

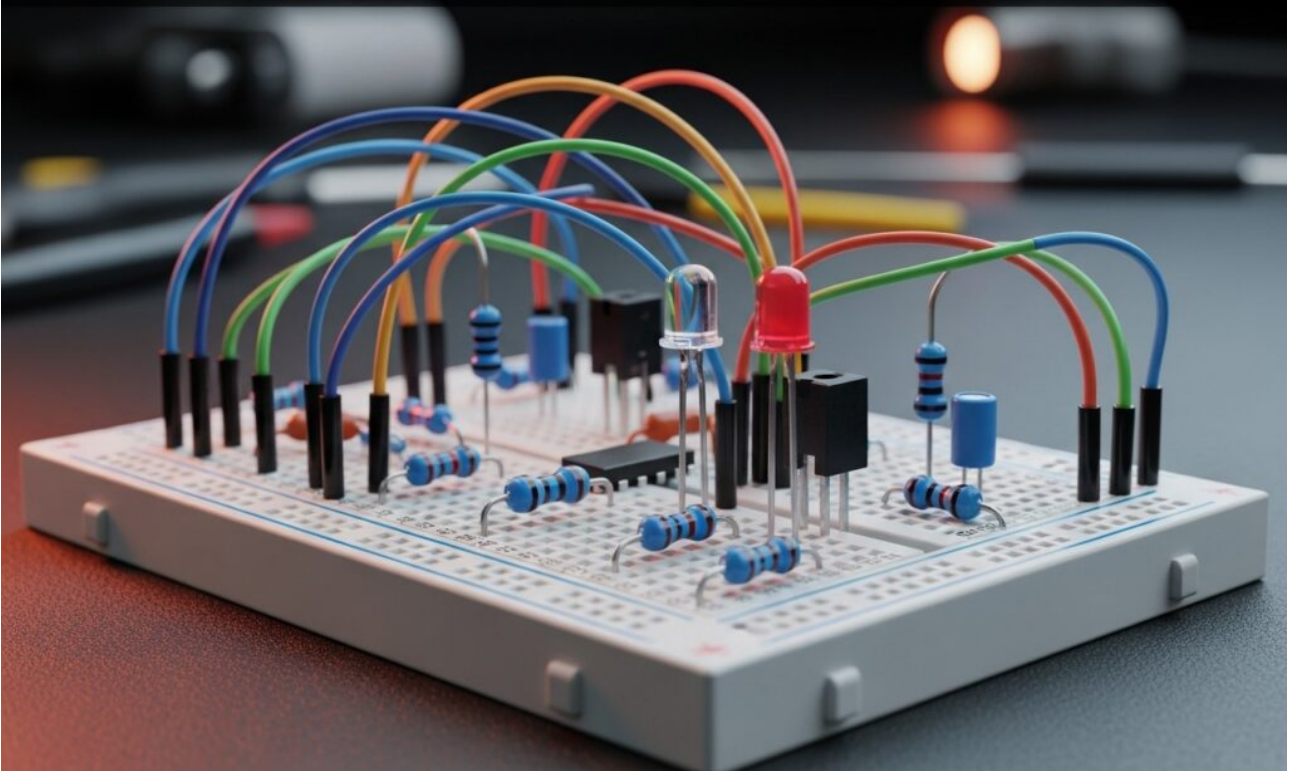
Modulated light audio receiver



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

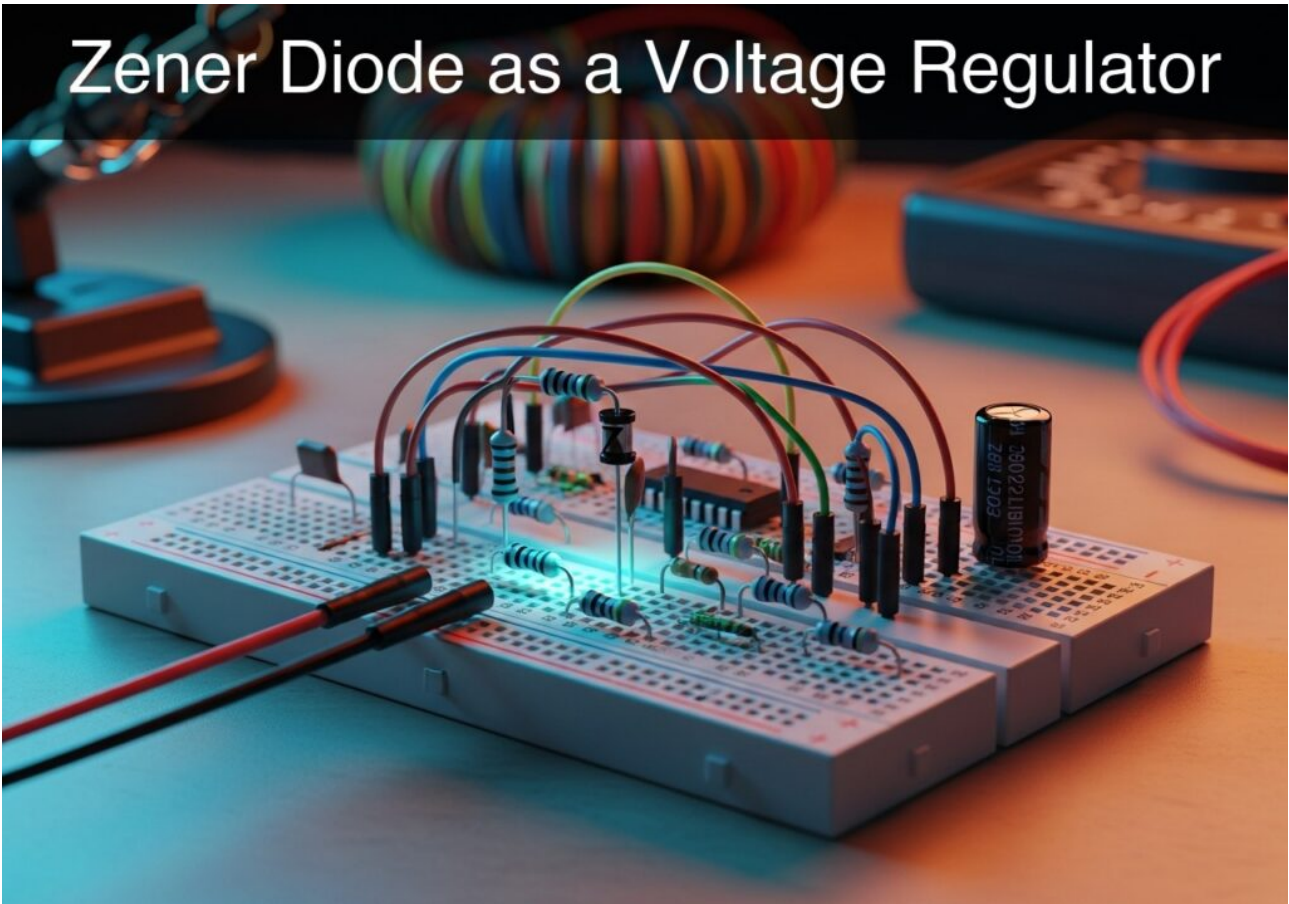
Optical tachometer for DC motor



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: Zener Diode as a Voltage Regulator

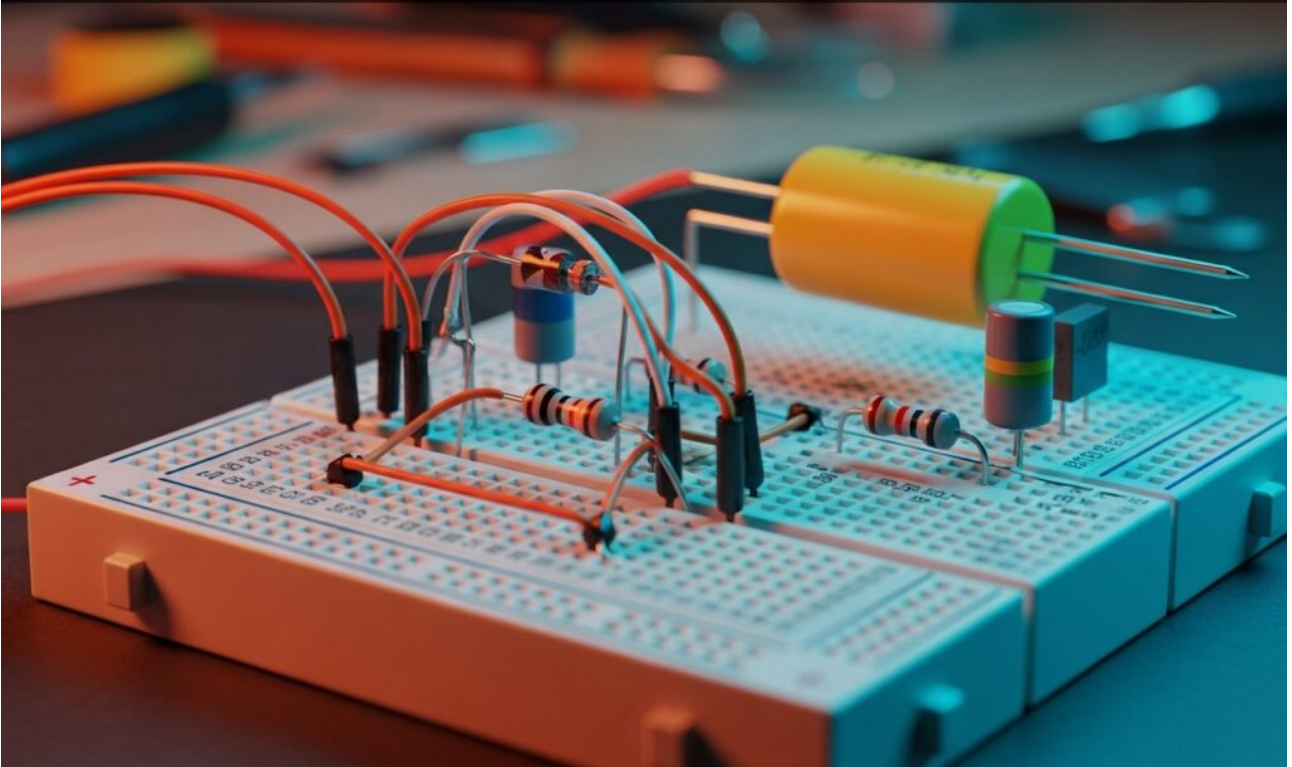
Zener Diode as a Voltage Regulator



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

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.