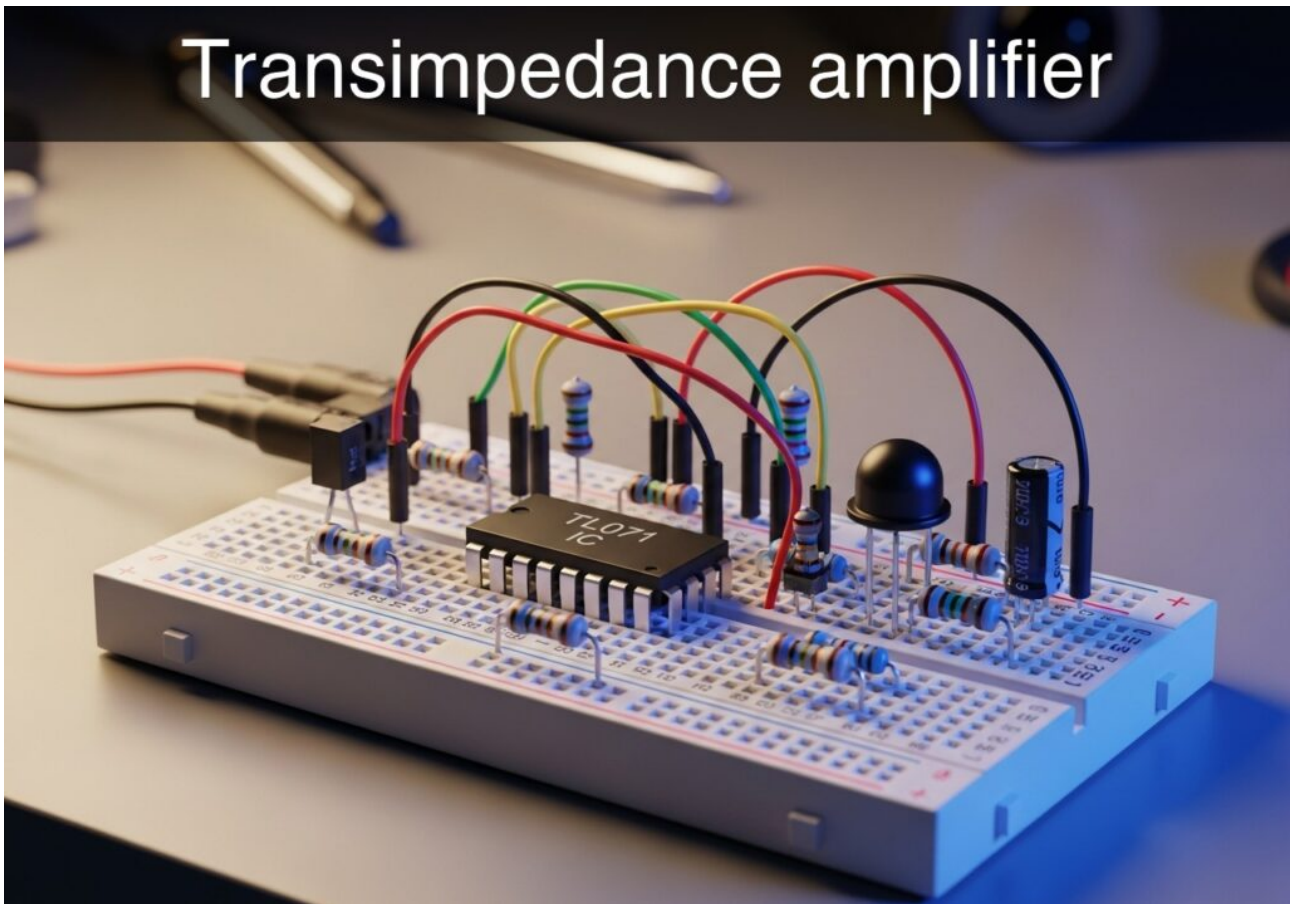


Practical case: Transimpedance amplifier



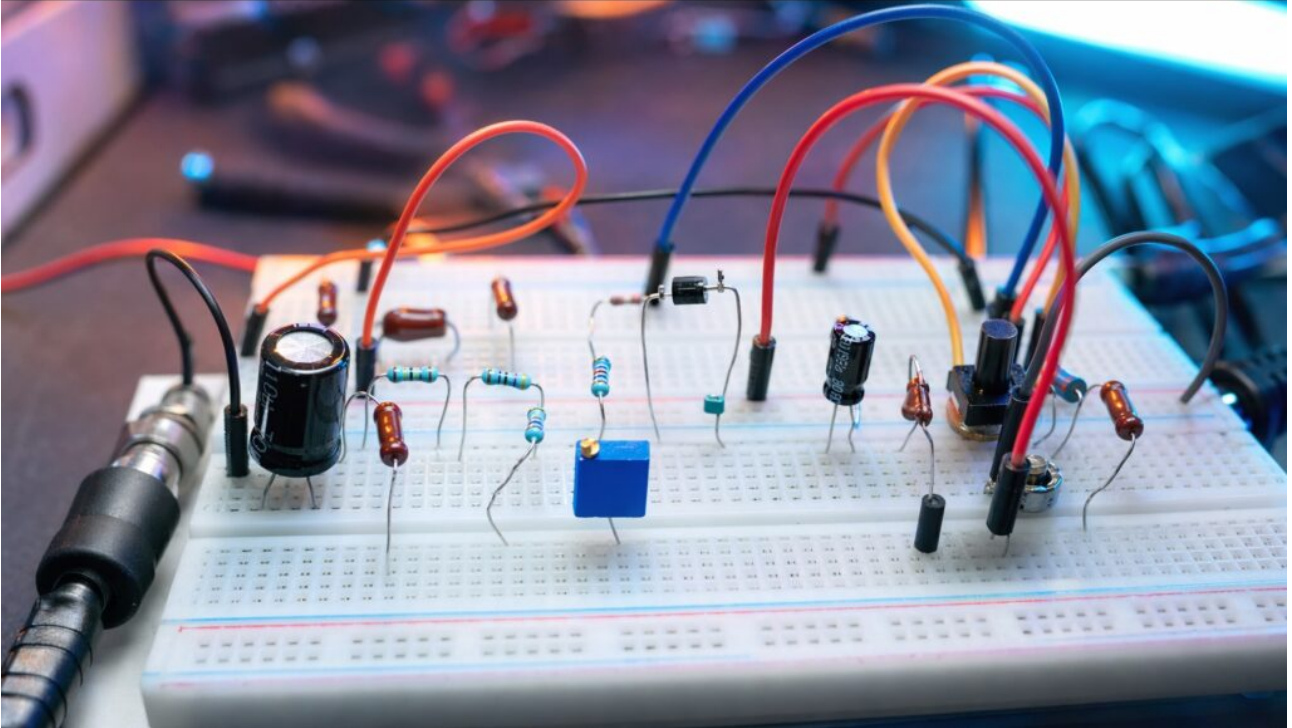
Level: Medium - Design an OPAMP transimpedance amplifier to convert the small photodiode current into a measurable voltage.

Objective and use case

You...

Practical case: DC level clamper circuit

DC level clamper circuit

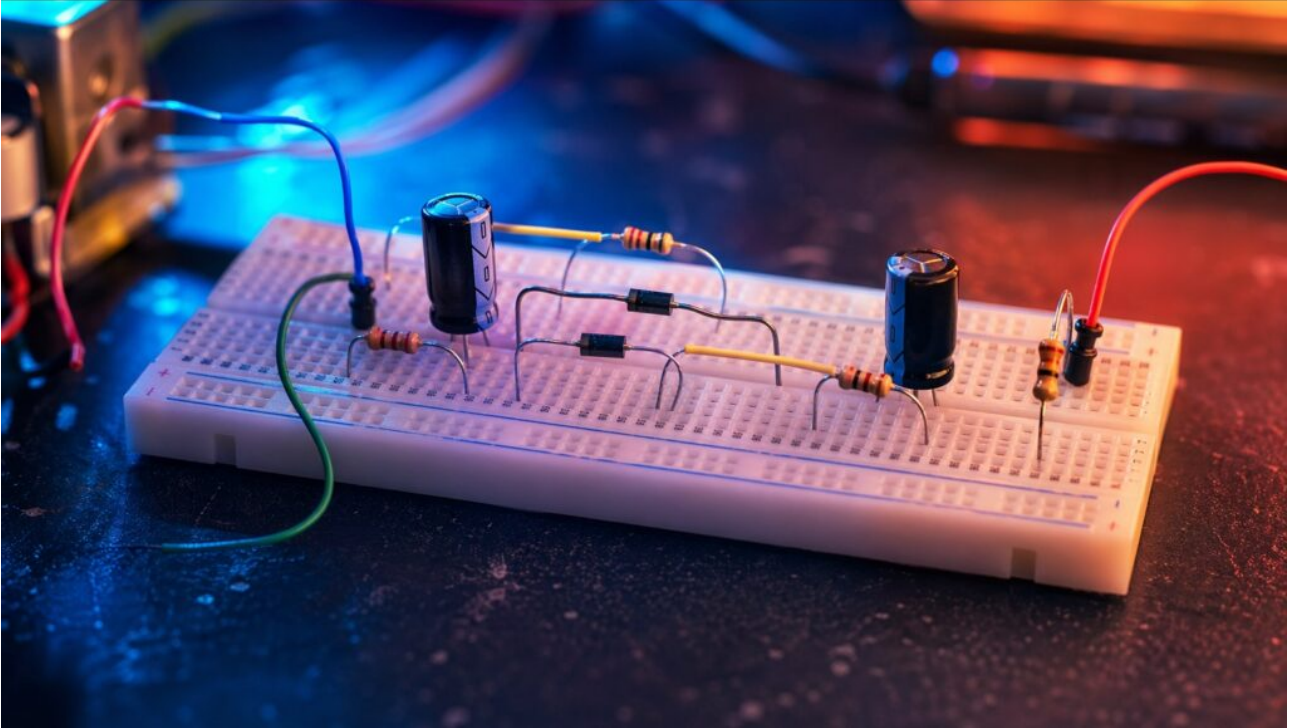


Level: Medium | Understand the shifting of the DC level of an AC signal using a diode and a capacitor.

Objective and use case
You will build a positive...

Practical case: Half-wave voltage doubler

Half-wave voltage doubler

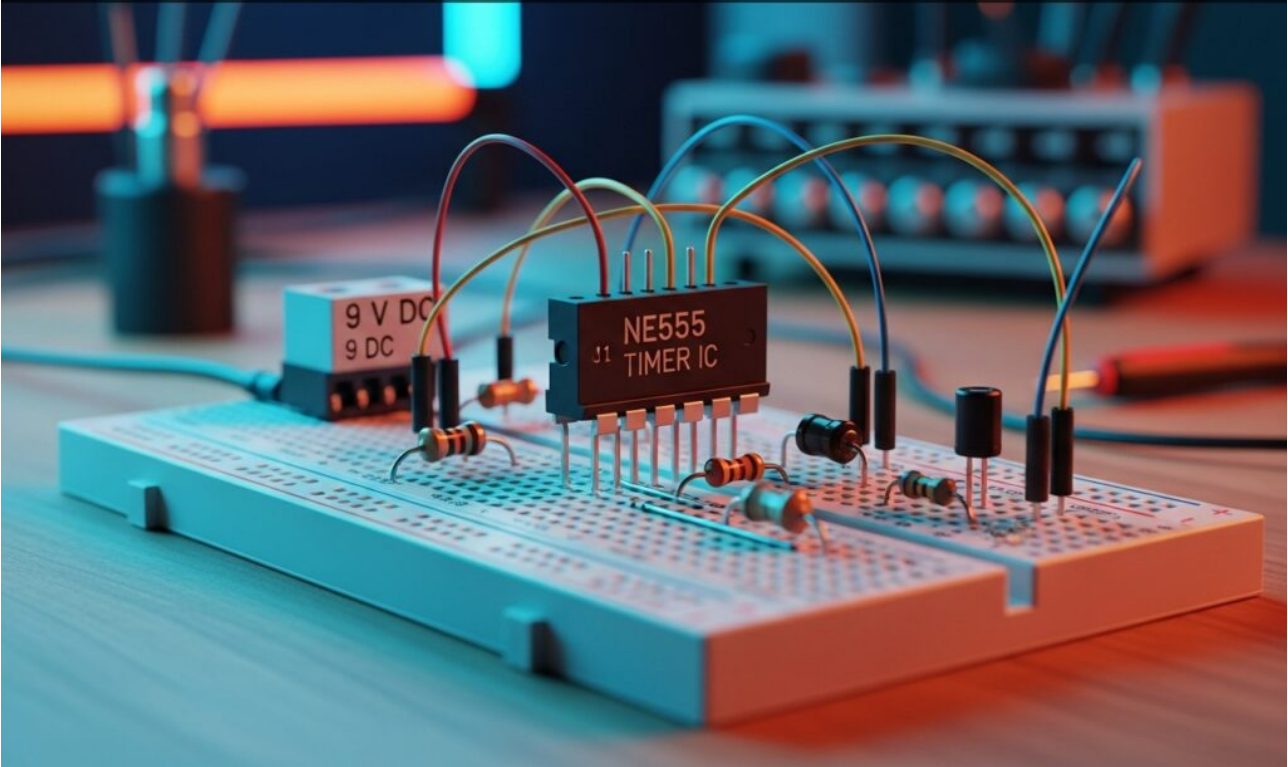


Level: Medium | Objective: Analyze and assemble a voltage doubler circuit to increase the peak voltage of an AC signal.

Objective and use case
In this...

Practical case: Light-controlled oscillator

Light-controlled oscillator



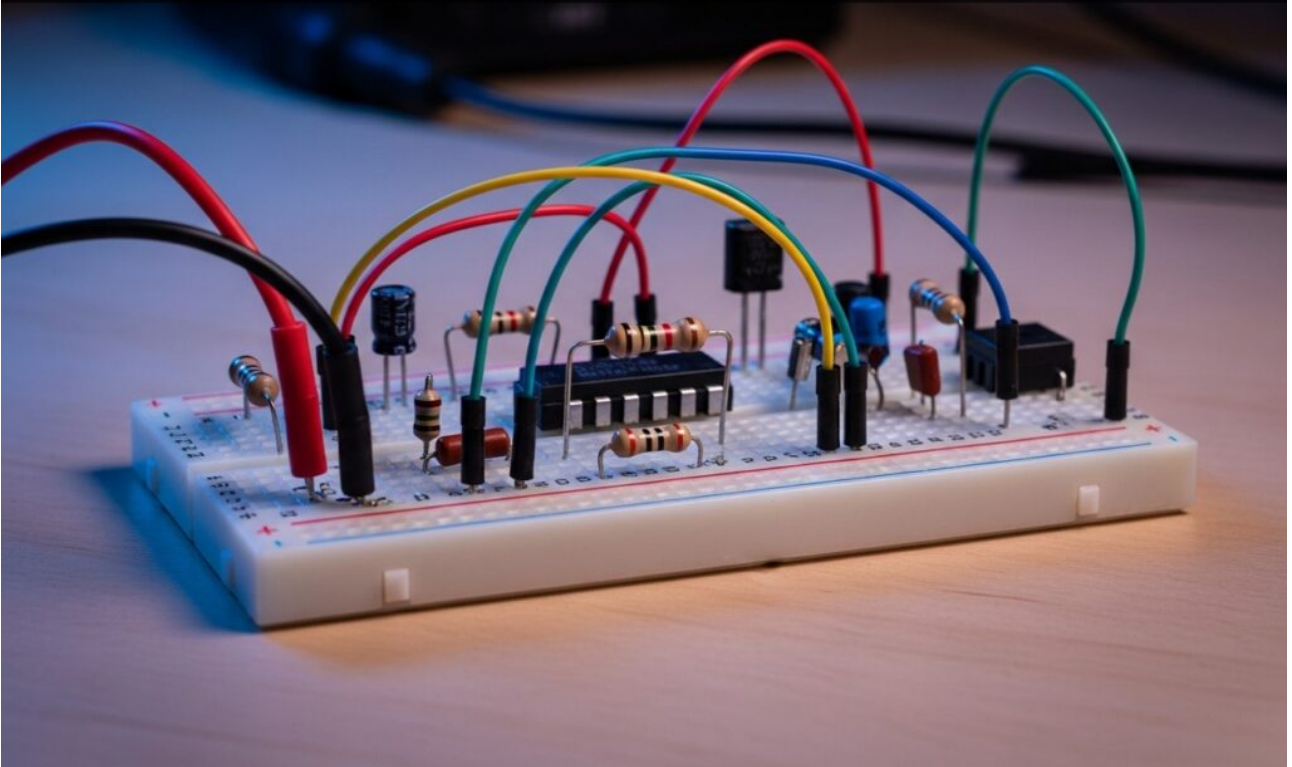
Level: Medium. Design an astable NE555 oscillator where an LDR modulates the output frequency based on ambient light.

Objective and use case

In this...

Practical case: Current measurement with shunt

Current measurement with shunt

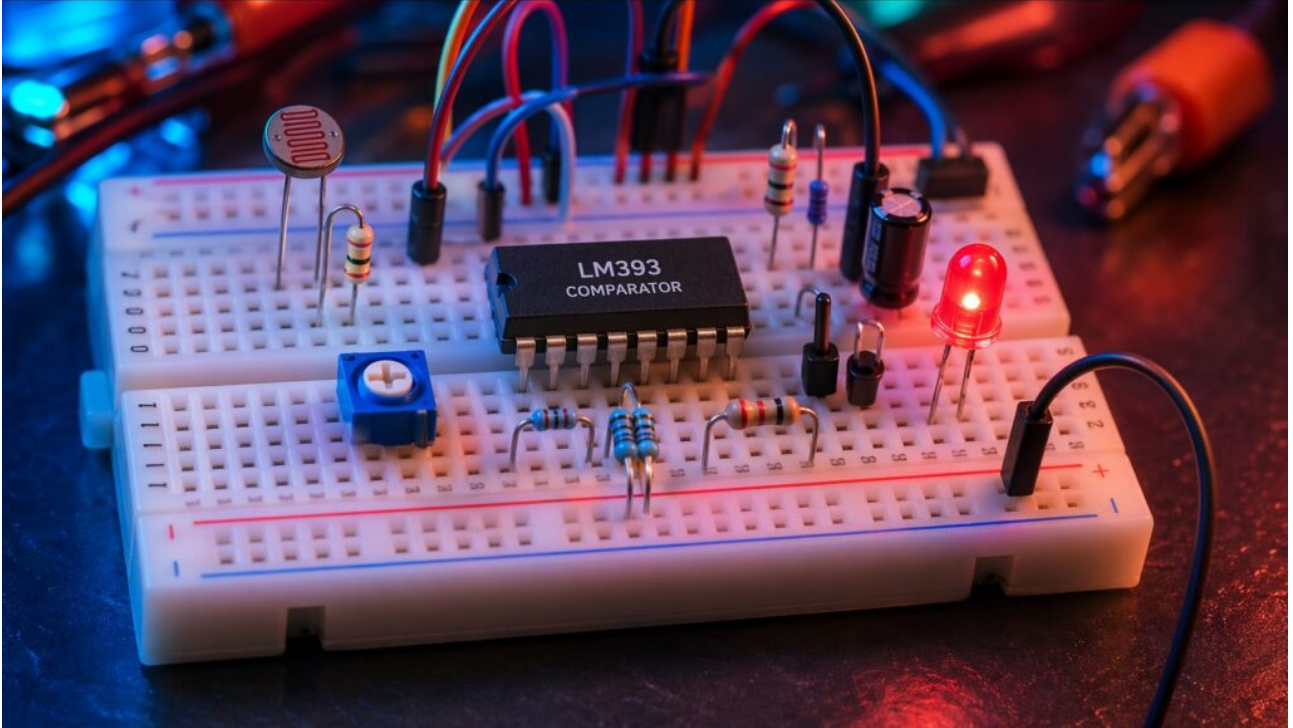


Level: Medium - Use a very low-value resistor to indirectly measure a DC load's current via voltage drop.

Objective and use case
You will build a direct...

Practical case: Shadow detector for visual alert

Shadow detector for visual alert



Level: Medium — Build a stable shadow detector with visual indication and low false triggering.

Objective and use case

You will build a...