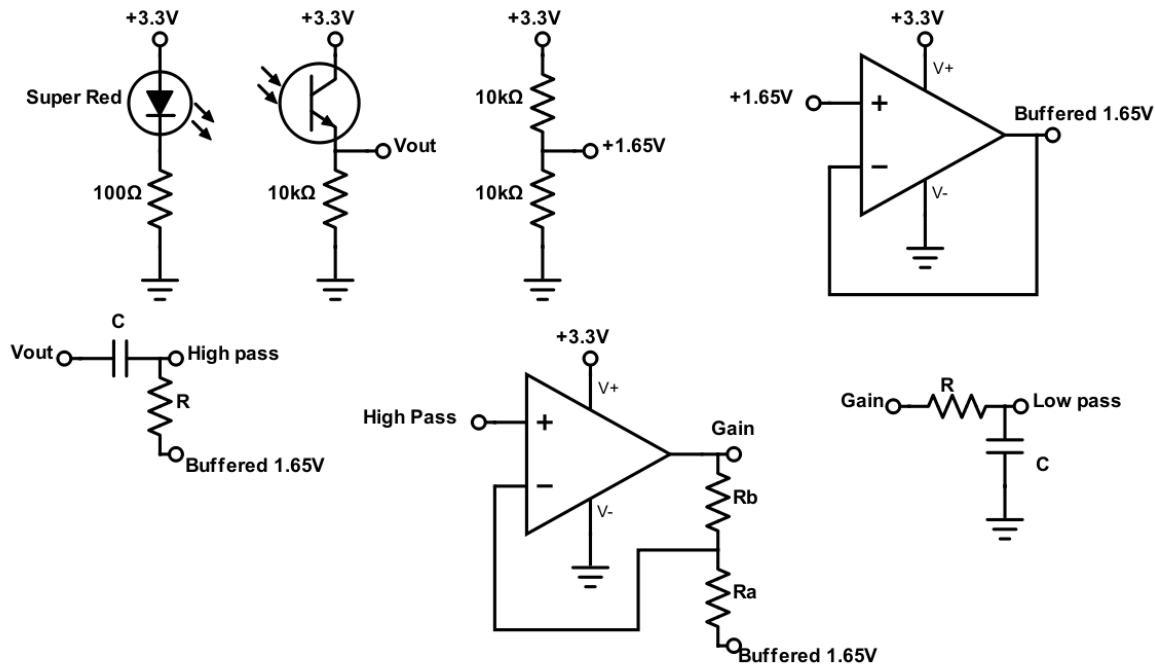


Nick Marchuk

Northwestern Medical Makers 2019

Workshop 1 – Photoplethysmogram (PPG) Sensor

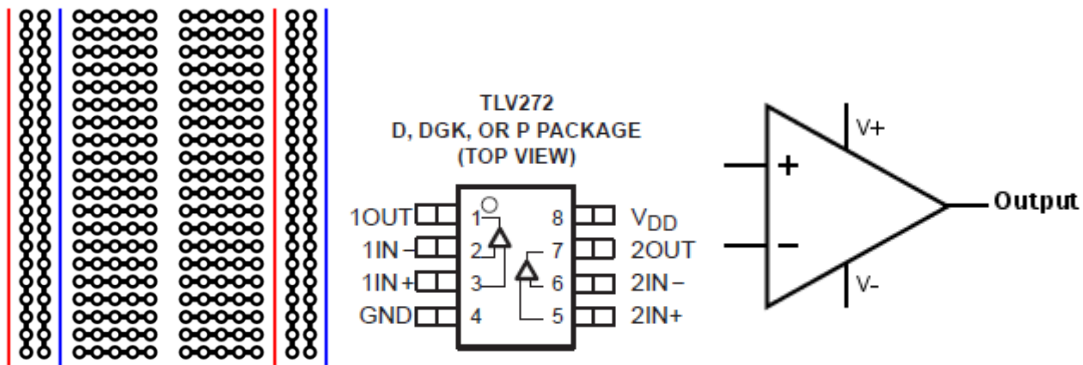


LED -> long side is positive

Phototransistor -> short side is positive

Filter frequency = $1 / (2 * \pi * R * C)$

Noninverting amplifier gain = $(R_b + R_a) / R_a$



Absorption due to:

pulse-added volume of
arterial blood
arterial blood
venous blood

tissue and bone

