

# EE112 Project-Assignment 3

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## Circuit Diagram

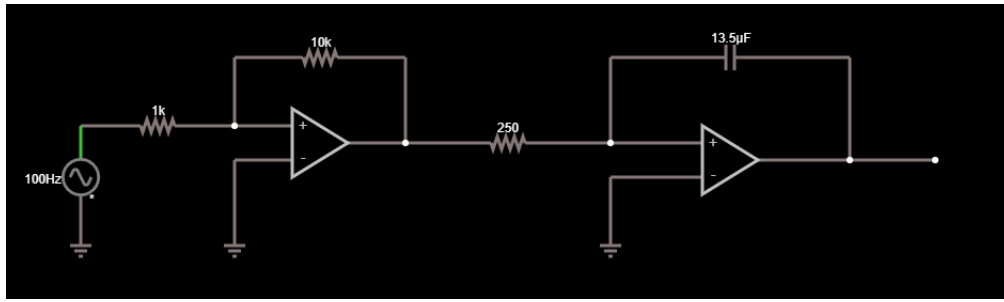


Figure 1: Circuit Diagram

## 1 Description

The above circuit will carry out the necessary task of converting a sinusoidal voltage with 5V amplitude and 100Hz frequency to a triangular wave with a 20V peak to peak voltage.

it consists of two consecutive Op-Amp circuits, one to convert the input sinusoidal voltage to a square wave and the second to convert the square wave to a triangular wave.

The first circuit is a non-inverting Schmitt Trigger which generates a square wave with a peak to peak voltage of 27V.

The second circuit is an integrator with  $R = 250\Omega$  and  $C = 13.5\mu F$ . It converts the square wave from the first circuit into a triangular wave with peak to peak voltage of 20V.

Here, we have assumed that there is no leakage current and the Op-Amps are ideal. We also took the values of saturation currents to be +13.5V and -13.5V.