

Oscillators and Signal Generators Prelab

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1 Wein-Bridge Oscillator

Construct the circuit in Figure (a), and follow the steps below:

1. Adjust the variable resistor until the sinusoidal vibration with the minimum amplitude occurs in V_o . Record V_o , f and the resistance of the variable resistor.
2. Adjust the variable resistor until the sinusoidal vibration with the maximum amplitude occurs in V_o . Record V_o , f and the resistance of the variable resistor.
3. Remove 1N4001, 1 k Ω and 3 k Ω , and adjust the variable resistor. Make a conclusion according to the experimental results.

2 Generation of Triangular and Square Waveforms

Construct the circuit in Figure (b), and follow the steps below:

1. Record the output waveforms of CH 1 and CH 2 in Y-t mode.
2. Record the output frequency of this circuit.
3. Make a conclusion according to the experimental results.

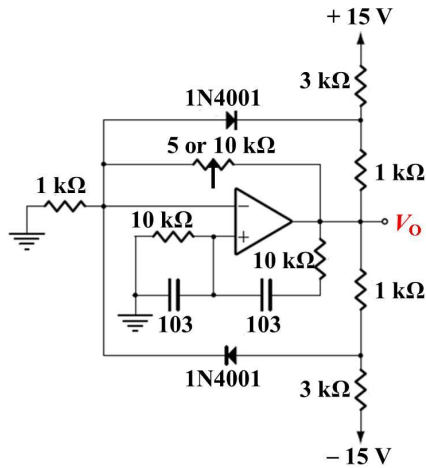


Figure (a): the Wein-Bridge oscillator circuit

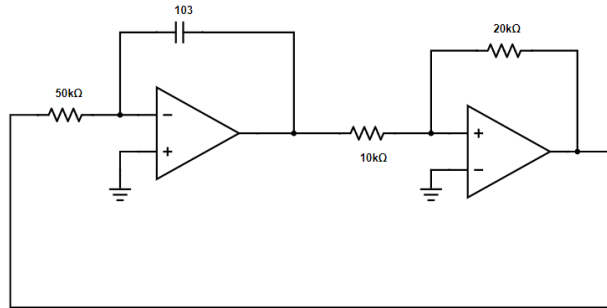


Figure (b): the circuit for generation of triangular and square waveforms