# Experiment 6 : Oscillators

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## 1. Experiment Objectives

1.1. Be familiar with the Barkhausen criterion and various kinds of oscillators.
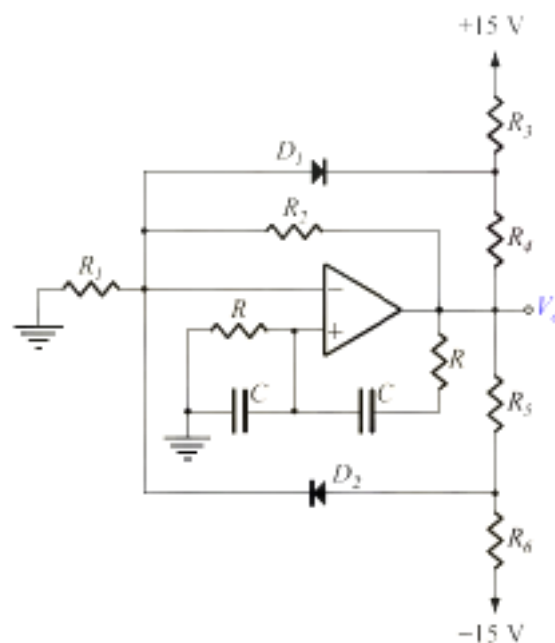
## 2. Experiment Setups



Fig. 3 Wien-bridge oscillator sinusoidal generator

1. Disconnect D1, D2, R3, R4, R5 and R6, use R1 = 3.3kΩ and R2 = 10kΩ.
2. Then tune to YT mode to observe the Vout.
3. Connect D1, D2, R3, R4, R5 and R6, use R1 = 3.3kΩ and R2 = 10kΩ.
4. Adjust the VR(R2) until the sinusoidal vibration with the minimum amplitude occurs in Vout.
5. Then record the Vout, frequency and R2 of the circuit.
6. Adjust the VR(R2) until the sinusoidal vibration with the maximum amplitude occurs in Vout.
7. Again, record the Vout, frequency and R2 of the circuit.