

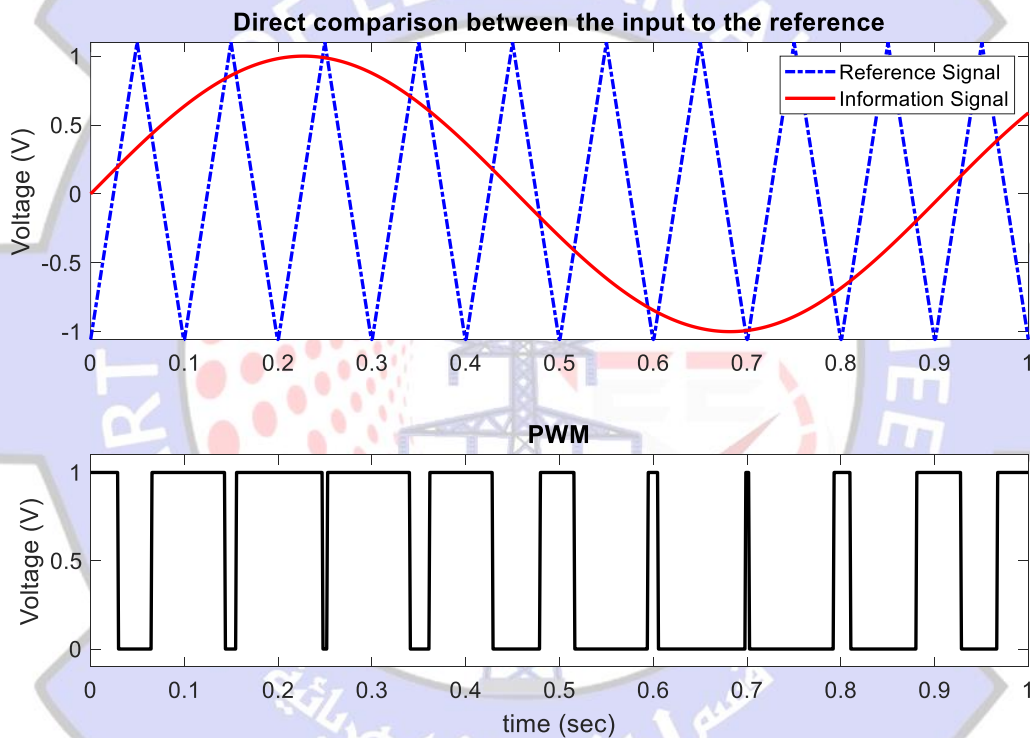
(8) PWM MODULATION USING MULTISIM

1. OBJECTIVES

Experiment the PWM in Multisim.

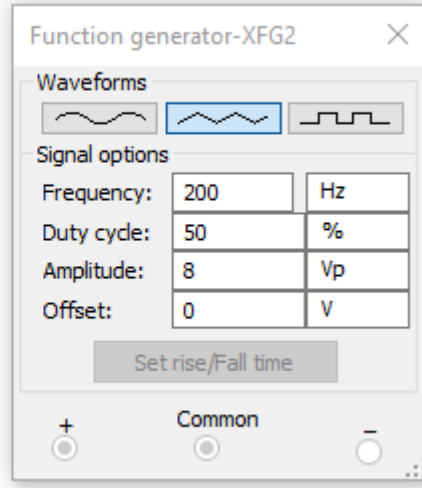
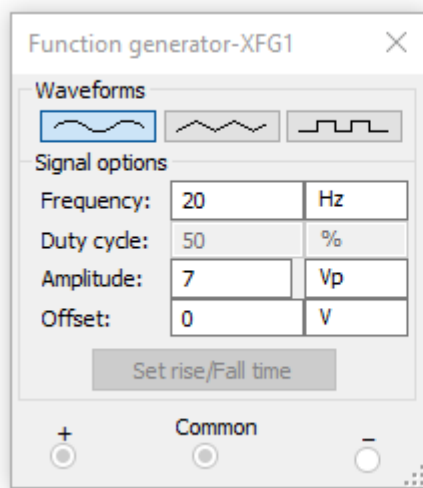
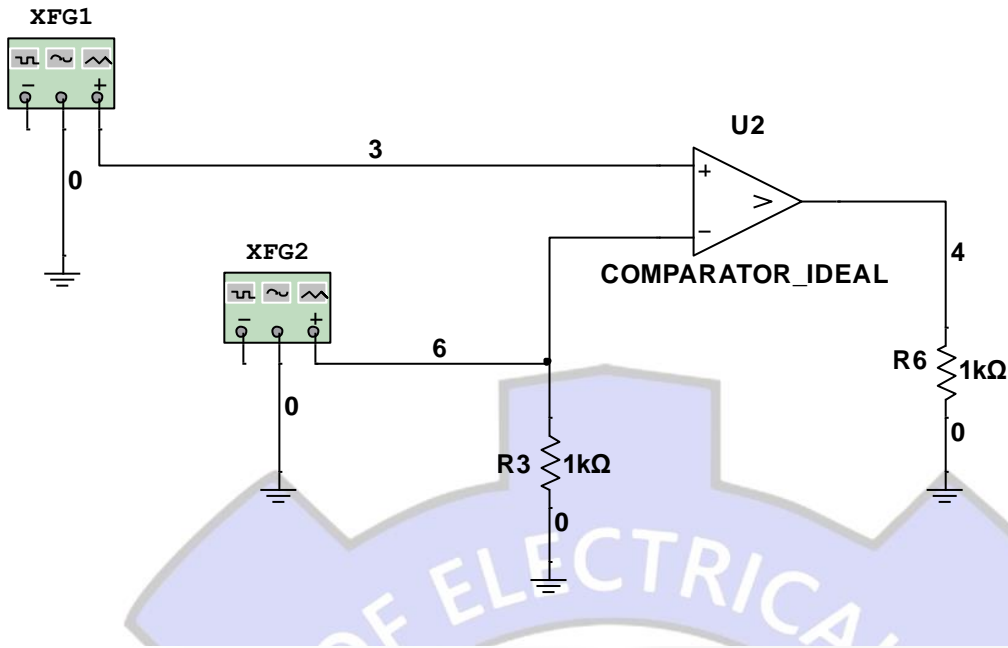
2. CONCEPT

The PWM is achieved by comparing the input signal to a reference signal (in this case is a triangular waveform). The output is high whenever the information signal is greater than or equal to the reference signal. In the same way, the output becomes low when the reference signal exceeds the input. The plots below illustrate the concept.



3. PROCEDURE

- (1) Implement the following circuit in Multisim.
- (2) Examine and study the outputs.
- (3) Change the given values and compare.



4. HOMEWORK

- (1) Although the given circuit above result in pulses whose widths are variable as a function to the input, their center location is the same within the cycle. Adjust the circuit to make the starting edge of the generated pulses is constant. This means the pulses are located at the beginning of each cycle, while the width is changing according to the input.
- (2) Implement PWM in Matlab