

Experiment no.7

§ Transistor as an amplifier §

7.1 Objective:

In the previous Transistor experiment, you learned the theory. Now you will apply it and build your own simple amplifier circuit from scratch using transistor and some various resistors/capacitors.

7.2 Theory:

How do we use the transistor as an amplifier?

- First, we must connect it appropriately to the supply voltages, input signal, and load, so it can be used
- A useful mode of operation is the common-emitter configuration.

There are multiple configurations using NPN transistors, but we will use the "common emitter configuration" because it allows us to have high voltage gain. Why is it called a "common emitter amplifier?" - Because the base is the input, the collector is the output, and the "common" or ground is the emitter.



Figure (1)

7.3 Procedure:

1. Connect the circle shown in the figure (2).

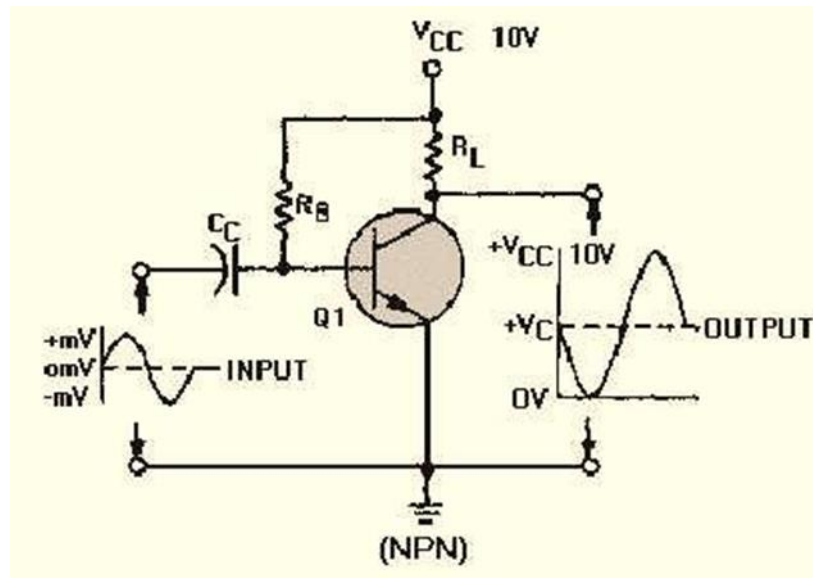


Figure (2)

2. Enter specific (input voltage 1V Sinewave) from the power supply device and draw it by using Oscilloscope.
3. Draw the output waveform (must be 2V Sinewave) by using Oscilloscope.

7.4 Discussion:

1. What is the benefit of using a transistor as an amplifier?
2. How do we use the transistor as an amplifier?