



Subject: Measurements & medical Transducers

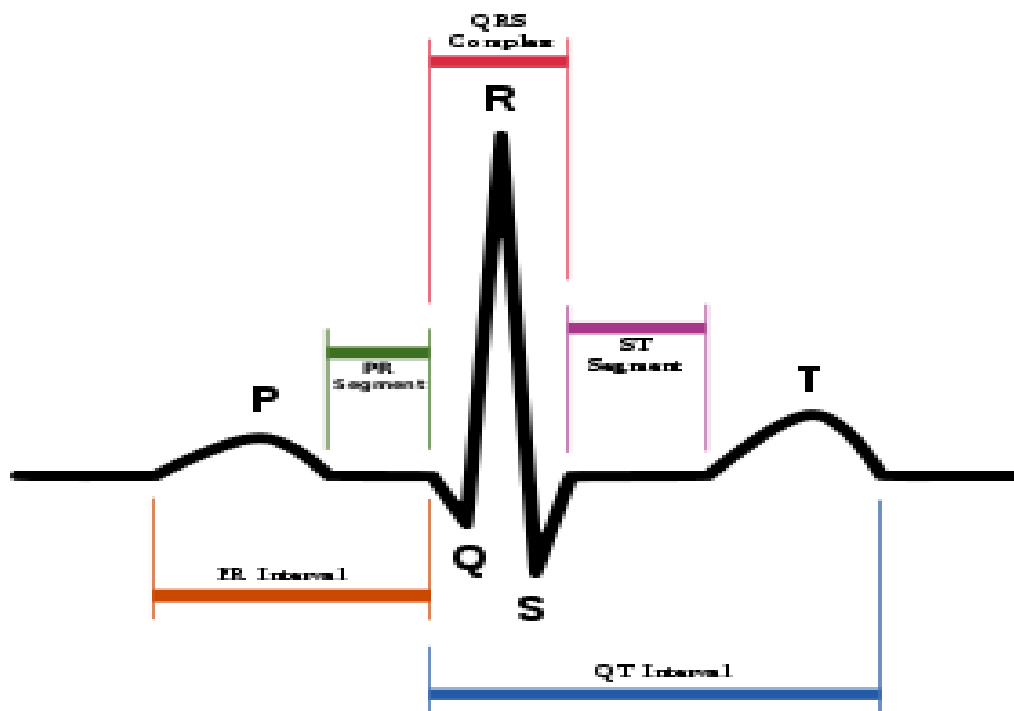
Experiment-3: Electrocardiography

# Electrocardiography

## Introduction

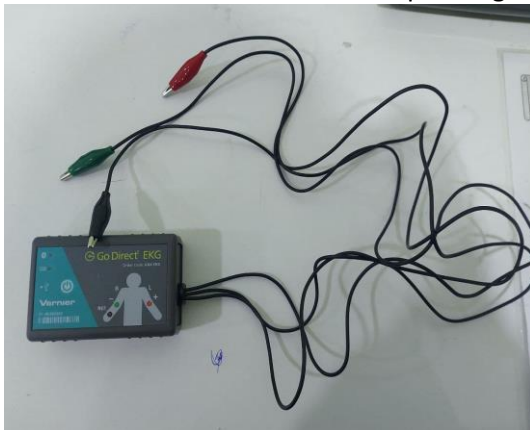
the process of producing an electrocardiogram (ECG or EKG ). It is an electrogram of the heart which is a graph of voltage versus time of the electrical activity of the heart using electrodes placed on the skin. these electrodes detect the small electrical changes that are a consequence of cardiac muscle depolarization followed by repolarization during each cardiac cycle (heartbeat).

Electrodes are the actual conductive pads attached to the body surface. Any pair of electrodes can measure the **electrical potential difference** between the two corresponding locations of attachment.





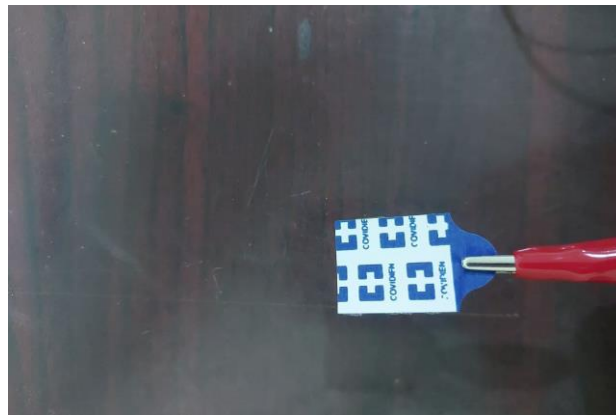
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-a-



-b-



-c-

Fig.(1) EKG sensor

## Procedure

Attach three electrode tabs to your arms as shown in fig.2. place a single patch on the inside of the right wrist, on the inside of the right upper forearm (distal to the elbow) and on the inside of the left upper forearm (distal to elbow).

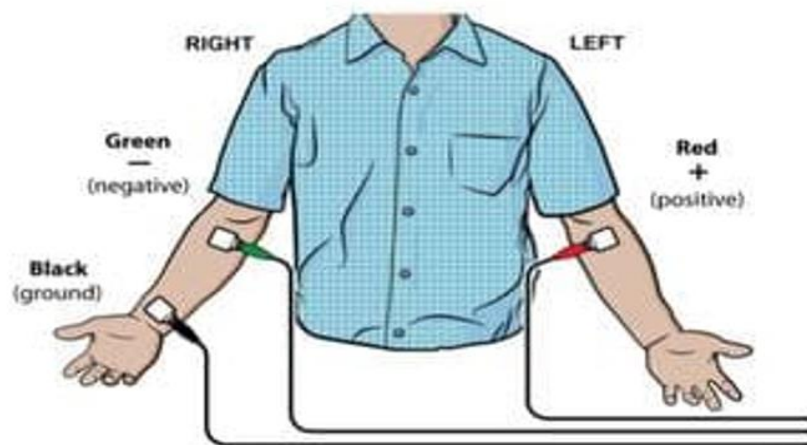


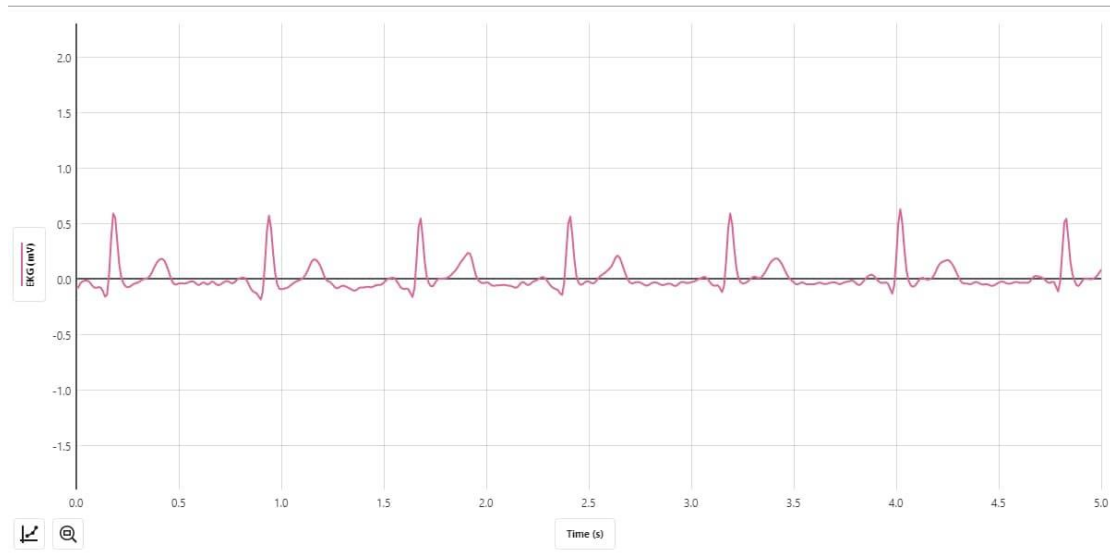
Fig.2



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## **Result**

The graphical representation of the electrical activity of the heart over a period of time is shown in figure.3 below.



**Fig.3**