



Sciencetech TechBooks are compact and user friendly learning platforms to provide a modern, portable, comprehensive and practical way to learn Technology. Each TechBook is provided with detailed Multimedia learning material which covers basic theory, step by step procedure to conduct the experiment and other useful information.

An Electrocardiogram (ECG or EKG, abbreviated from the German Elektrokardiogramm) is a graphic produced by an electrocardiograph, which records the electrical activity of the heart over time. Analysis of the various waves and normal vectors of depolarization and repolarization yields important diagnostic information.

- It is the gold standard for the diagnosis of cardiac arrhythmias
- It guides therapy and risk stratification for patients with suspected acute infarction.
- It helps detect electrolyte disturbances (e.g. hyperkalemia and hypokalemia)
- It allows for the detection of conduction abnormalities (e.g. right and left bundle branch block)

**12 Lead ECG Simulator Sciencetech TechBook 2352A** provides a quick, accurate measurement of all 12 leads including both Unipolar and Bipolar configurations for verifying the performance of real time ECG monitoring. It illustrates the fundamentals of standard limbs (unipolar and bipolar) and chest leads interpretation and rhythm recognition in an easy-to-use manner. ECG rhythms produced by Sciencetech TechBook 2352A can be changed in specific boundaries (heart-rate, amplitude).

Sciencetech TechBook 2352A also demonstrates ECG observation comprising P, Q, R, S, T, U (U wave is only for lead II) waves in different leads arrangements. It is compatible with ECG cum Heart Rate Monitor Sciencetech TechBook 2351 which receives the ECG signals generated by Sciencetech TechBook 2352A and measures the heart-rate as number of heartbeats per minute. The abnormalities occurring in human cardiovascular system like Tachycardia (faster heart-rate) and Bradycardia (slower heart-rate) can also be studied.

Sciencetech TechBook 2352A is also capable of illustrating all 12 leads of ECG simultaneously at a single point, where all waveforms can be observed which help you in understanding of ECG graph interpretation.

## Features

- Provides amplified ECG output with P, Q, R, S, T, U waves.
- Compatible with ECG cum Heart Rate Monitor Sciencetech Techbook 2351
- Provides in-depth study of Standard Unipolar and Bipolar Leads Configuration for ECG measurement Variable Heart-rate generation from 30-300 heartbeats/minute
- Variable ECG amplitude 200mV – 4V DC
- Every Systole indication by LED and audible (Buzzer)

## Scope of Learning

- Study of lead I, lead II, lead III of Standard Bipolar lead configuration
- Study of avR, avL, avF lead of Standard Augmented Uni-polar leads configuration.
- Study of Chest lead V1, Chest lead V2, Chest lead V3. Chest lead V4, Chest lead V5, Chest lead V6 of Standard Uni-polar lead Configuration.
- Study of all the standard ECG leads (12 leads) Unipolar and Bipolar configurations simultaneously.
- To demonstrate the measurement of Normal Heart-Rate using Sciencetech TechBook 2351
- Study of the heart abnormality conditions that occur in human Cardiovascular System (Tachycardia, Bradycardia) using Sciencetech TechBook 2351.

## Technical Specifications

**Generating Range** : 30-300 heartbeats/minute

**ECG Amplitude Range:** 200mV- 4V DC.

**Heartbeat indication** : Both LED and Audible (Buzzer) controls

**Bipolar Leads** : Lead I, Lead II, Lead III.

**Unipolar Leads** : avR, avL, avF, Chest leads (V1-V6) Separate output channels Left arm (LA), Right arm (RA), Left leg (LL), Right leg (RL) and Chest Leads (V1-V6) for representing Standard Limb and chest leads configurations. A separate point indicated (12 Lead) to view the all 12 Lead standard ECG waveforms simultaneously.

**Test Point** : 1 no.

**Low Pass Filter** : Cut-off frequency-5KHz

**Dimensions (mm)** : W 326 x D 252 x H 52

**Power supply** : 110V - 260V AC, 50/60Hz

**Weight** : 1.5 Kg. (approximately)

**Operating Condition** : 0-40°C, 85% RH

**Product Tutorial** : Online on [www.SciencetechLearning.com](http://www.SciencetechLearning.com)

**Included Accessories** : ECG Gel, Banana to 5 pin,  
Power Supply - 1 no.  
Clamp Electrodes - 4 nos.