

**asaan** is a resting ECG machine. It acquires ECG and prints it on A4 paper. It has e-mail option to send ECG report. It also has 2" thermal printer to take emergency printouts.

## Technical Specifications

### 1. Performance –

Display	: 7" touch screen
Language	: English
Printout	: on A4 Paper & emergency print on thermal paper (55mm, 20mtrs)
Storage	: Storage of 10000 ECG, freedom of not taking printout if not required
Email	: Yes

### 2. Power supply

Input	: 100 - 300 VAC, 50 Hz, 1 Ø.
Output	: 18V DC @ 1.2 A.
Battery	: 12 V /1.2A rechargeable.

### 3. Dimension and Weight

Dimension (in mm) (L x B x H):	250mmX225mmX85 mm
Weight (in Kg)	: Approx. 1.93kg

### 4. Environmental

Operating Temp	: -5 °C to +50 °C
Operating & Storage Humidity	: up to 95 % non-condensing

### 5. ECG

Frequency response	: 0.05 to 150 Hz with notch at 50 Hz
Input impedance	: 10 M ohm
Time constant	: > 3.2 sec
A/D conversion	: 12 bit

Noise	: < 20 $\mu\text{V}_{\text{p-p}}$
Leakage current	: < 10 $\mu\text{A}$
CMRR	: > 120 dB
Patient isolation	: Optical isolation.
Lead selection	: standard 12 leads
Gain	: 5, 10 & 20 mm/mV
Sweep speed	: 25.0, 50.0 mm/S.

## Detailed Feature

### ➤ Main screen display

- **Patient** –To go to patient search page
  - Search old patients
  - Register new patient
  - Edit medical history
  - Edit patient detail
  - Link emergency
  - Conduct ECG test
  - View log of patient
    - ✓ Facility to Print A4 & thermal print
    - ✓ Facility to send email
- **Review tests** – To view list of all conducted tests.
  - view report or check the status of the patient with date and time of the test
  - Facility to Print A4 & thermal print
  - Facility to send email
  - Preview ECG
- **Emergency** –To take emergency ECG
- **Settings** – Configuration

### ➤ Details of Configuration

- `Demo` mode selection check box
- Screen configuration(Default screen)
  - ECG screen
  - Median screen
- Thermal print Setting
  - Print gain
  - Print length
  - Print format
  - Report format

- Report Configuration
  - Single page report
    - ECG only
    - ECG with Interpretation
    - Medians with Measurement
    - Medians with measurement & Interpretation
  - Two page report
    - Without Interpretation
    - With Interpretation
- Grid/Graph/No grid option for A4 report
- Color, Borders and Heart rate check box for A4 report
- Long lead selection from dropdown for A4 report
- Display gain selection from dropdown for Acquisition
- Print gain selection
- Facility to enter hospital name
- Facility to enter send to mail ID
- Facility to enter email subject
- Cancel & OK button

➤ **Acquisition display –From emergency & new ECG button**

- Simultaneous acquisition of 12 Leads of ECG @ 250 samples per second per channel with ADC resolution of 12-bit.
- Frequency Response – DSP filter of 0.05 to 150Hz with notch at 50Hz
- Display of 4 seconds of ECG traces of 12 leads in 6 X 2 with standardization pulse
- Acquisition screen button
  - Gain button
  - speed button
  - QRS lead button
  - Save button
  - Exit button
- **Gain button-** asaan allows you to choose desired recording sensitivity (5, 10, 20mm/mv).
  - asaan allows the choice of changing the gain of the Electrocardiogram from acquisition & from configuration .
  - There are two gain options, one is Display Gain and Print Gain, and we can choose which gain to be used for display and thermal printing.
- **Speed button-** asaan allows you to choose desired recording sensitivity (12.5, 25, 50mm/s).
  - asaan allows the choice of changing the sweep speed of the Electrocardiogram from acquisition
- **QRS lead button-**

- To change QRS lead and change lead displayed in magenta color
- **Save button-**
  - This button will get enable after 10 sec. as per configuration from 'setting' median screen OR ECG screen is displayed.
- **Exit button-**
  - Exit from the acquisition screen

➤ **ECG Screen display**

- **Facility to Retest**
- **Facility to Print A4 & thermal print**
- **Enter comments printed on A4 paper**
- **Zoom In zoom out ECG**
- **View previous & next ECG of selected patient**

➤ **Median Screen display-**

- **Zoom selected median**
  1. Facility to change P+ start, P+ end, P – end, Q start, R Start, R end, S end, r' end, s' end, T Start, T End, U start, U end points.
- **Displays following Measurement**
  1. Amplitude (in V)
  2. Duration of P,Q,R ,S,T in ms
  3. Interval of PQ,PR,QRS,QTC in ms
  4. Axis of P,QRS and T measurement in degree
  5. Heart rate
- **Displays following ECG interpretation**
  1. Rhythm statements
    - a. Sinus Rhythm / Junctional or NonSinus Rhythm suspected / Sinus Bradycardia / Sinus Tachycardia
  2. PR interval statements
    - b. PR is normal / PR is long / PR is short
  3. QRS interval statements
    - c. Normal QRS Width / Wide QRS
  4. QT interval statements
    - d. Normal QT interval / QT Interval is prolonged / QT Interval - Little clinical significance
  5. QRS Axis statements
    - e. QRS Axis is normal / Right axis deviation / Left axis deviation / QRS Axis is indeterminate
  6. ST abnormalities statements
    - f. Normal ST level / ST Elevation / ST Depression
  7. T wave inversion
    - g. Lead names of leads showing T wave inversion

- **Edit Measurement & Interpretation facility**
- **Facility to Enter comment**
- **Facility to Retest**
- **Facility to Print A4 & thermal print**

❖ **Reports**

- Resting ECG report
- 12 leads(All leads) measurement report with interpretation

❖ **LED indication**

- Mains on—Green LED.
- Battery on—Yellow LED.
- Battery low—Red LED.

\* Due to our continuous product improvement programme, features can be enhanced.