



## RIGEL 344

### Defibrillator / Pacemaker Analyser / ECG Arrhythmia Simulator

#### THREE IN ONE TESTER

The **Rigel 344** combines the complete testing functions of a defibrillator tester, a pacemaker analyzer, and an ECG arrhythmia simulator into one compact, lightweight, and easy to use instrument.

No other instrument delivers the performance testing power of the **Rigel 344**. It will test all defibrillators, all external pacemakers including transcutaneous and transvenous and all ECG equipment. The built-in user selectable test loads eliminate the need to carry extra modules to test the transcutaneous pacers.

The **Rigel 344** delivers unsurpassed biomedical testing capabilities in one instrument.

#### Features

- ↗ Compact, Lightweight and Rugged.
- ↗ Simple, Menu Driven Operation.
- ↗ Large, Easy to Read Display.
- ↗ Simultaneous Display of All Test Measurements.
- ↗ Dedicated Print key for Immediate Documentation.
- ↗ RS 232 Interface.
- ↗ Battery or AC Operation.
- ↗ Two-Year Warranty.



# Test Functions:

## **Defibrillator Tester: Tests All Defibrillators - Semi -Automatic, Automatic, and those with Bi-Phasic Waveforms.**

- ⇒ Measures: Energy, Peak Voltage, Peak Current, and Cardio Sync. Time.
- ⇒ Storage and Playback of Output Waveforms.

## **Pacemaker Analyzer: Tests All External Pacemakers – Transthoracic and Transvenous Pacers.**

- ⇒ Measures: Amplitude, Rate, Pulse Width, Pulse Energy, Sensed and Paced Refractory Periods.
- ⇒ 50 and 60 Hz Immunity Tests.
- ⇒ Transthoracic Test Load: Fixed 50 Ohm or 12 User Selectable Loads to 1000-Ohms.
- ⇒ A / V Pacer Test Load: 500 Ohms.

## **ECG Simulator: Tests All ECG Equipment.**

- ⇒ 12 lead ECG. User selectable Rates and Amplitudes.
- ⇒ Performance Waveforms: Sine, Square, Triangle & Pulse
- ⇒ 12 Arrhythmia Waveforms

# Technical Specifications

## **Defibrillator Analyzer:**

### **Energy Measurement:**

Load: 50 Ohms +/- 1%  
Range (High): 900 Joules, Res. 1J.  
Resolution: 1 Joules  
Range (Low): 0 – 100  
Resolution: 0.1 Joules.  
Accuracy: +/- 2% of the Reading  
Plus 1J for Hi Range or  
Plus 0.5J for Low Range.  
Maximum voltage: 5200  
Maximum Current: 100 Amp (H)

**Sync. Time:** 0-250 ms.

### **Waveform Output:**

Real Time: Output 1000: 1  
Stored: Discharge waveform  
expanded 200:1 and is repeated 8  
seconds. It can be viewed through  
the paddles and through the ECG  
High Level Output.

## **Pacemaker Analyzer:**

### **◆Transcutaneous:**

Test Load: 50 Ohms (Fixed)  
and Variable 100 to 1000 Ohms  
user selectable.  
Current: 1 to 200 mA  
Accuracy: +/- 5% +. 5 mA  
Pulse Width: 0.5 to 80 ms.  
Accuracy: +/- 1% +.1 ms.  
Refractory: 20 – 500 ms  
Accuracy: +/- 2 % or +10ms

### **Atrial and Ventricular:**

Test Load: 500 Ohms +/-1%  
Current: 1 to 25 mA  
Accuracy: +/- 5% +. 5 mA.  
Pulse Rate: 30 to 800 ppm.  
Pulse Width: 0.5 to 80 ms.  
Accuracy: +/- 1% +.1 ms.  
Refractory: 20 – 500 ms  
Accuracy: +/- 2 % or +10ms  
Immunity Test: 50/60 Hz

## **ECG Arrhythmia Simulator:**

**ECG: Normal Sinus Rhythm**  
Rate: 30, 60, 90, 120, 240 BPM

**Performance:**  
Sine, Square, Triangle and Pulse  
Rate: 0.5 1, 2, 10, 15, 20, 25,  
40 Hz.

**Arrhythmias:**  
VFBC, VFBF, VTAC, AFIB  
PVC, PVC1, PVC2, BGY, RBB  
AFIB, ATRFT, NSR.

### **Waveform Output:**

12 Lead ECG and Paddle and HI  
level Output Jacks.

### **Power Requirements:**

Two 9-Volt Alkaline Battery or  
AC adapter.

**Dimensions:**  
(25.4 x 27.9 x 5.7 cm)

**Weight:**  
(1.9 Kg)

## Accessories:

### Standard:

AC Adapter, Universal Paddle Adapter, User Manual, Shrouded Banana Plugs (set of 2), Certificate of Calibration.

### Optional:

Carrying Case, Paddle Adapters for various manufacturers. Please call Customer Service for part numbers.

### Rigel Medical

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