

## 1MHz Sine / Square Generator / Counter



### Features

- ★ Wide Frequency Range from 1Hz to 1MHz
- ★ Low Harmonic Distortion for Sine Wave
- ★ Sine and Square Wave Outputs
- ★ Use of Thermistor provides Higher AVC Gain and Flat Frequency Response
- ★ Better Frequency Stability
- ★ Built-in Attenuator upto 60dB in 20, 40, 60 dB steps
- ★ Maximum Sine Wave Output of 30V p-p
- ★ Maximum Square Wave Output of 20V p-p
- ★ Rise and Fall Time  $\leq 100\text{ns}$
- ★ Compact and Portable
- ★ Digital Readout of Frequency
- ★ Ext Counter Facility

### Description

APLAB Model 2014D 1MHz Sine/Square Generator/Counter is a versatile generator covering a wide range from 1Hz to 1MHz in 6 decade ranges. Its unmatched features like low price without compromising the specifications of low harmonic distortion, sine / square function selection facility, light weight, and easy to operate makes this instrument an ideal source of signal in Production Units, Service Centres, Educational Institutes, in design of Filters and Audio Amplifiers, in field servicing etc.

Its 600 ohms output impedance makes it ideal for the use in wide variety of circuits.

The 4 digit display indicates the internal/external frequencies. There by eliminating the tedious & less accurate dial settings.

The output amplitude FINE control has approximate adjustability of 20dB. Attenuation of 0dB, 20dB, 40dB and 60dB is possible with the permutation and combination of 20dB and 40dB attenuator pads.

The generator has very good spectral purity. The sine wave distortion is of the order of 0.05% (for more details see specifications overleaf). The square wave rise and fall time is less than 100ns when measured with maximum output.

In addition to the above it has got frequency counter mode which helps user to measure external signals, in the frequency band 1Hz - 1MHz. The counter automatically selects the best resolution depending on the input frequency.

## Specifications

**Frequency Range** : 1Hz to 1MHz in 6 decade ranges  
1Hz to 10Hz  
10Hz to 100Hz  
100Hz to 1KHz  
1KHz to 10KHz  
10KHz to 100KHz  
100KHz to 1MHz.

**Frequency Indication** : 4 digit 0.3" LED display.

**Frequency Accuracy** :  $\pm 0.1\%$  of reading  $\pm 1$  count.

**Max. Output Voltage at 1KHz**

Sine : 10V rms  $\pm 1$  rms.

Square : 20V p-p or above.

**Attenuator** : 4 steps corresponding to 0dB, 20dB, 40dB, 60dB.  
Accuracy within  $\pm 1$ dB at 1KHz.

**Attenuator Output Impedance** : 600 ohms  $\pm 5\%$  (at 20dB, 40dB, 60dB attenuation).

**Amplitude Change with Frequency** : For sine wave (checked at 10V rms w.r.t. 1KHz).  
1Hz to 1MHz :  $\pm 1.0$ dB.

**Sine Wave** :  $< 0.05\%$  in the range from

**Distortion** : 400Hz to 20KHz.  
 $< 0.2\%$  in the range from 200Hz to 40KHz.  
 $< 0.4\%$  in the range from 40Hz to 100KHz.  
 $< 1.5\%$  in the range from 10Hz to 300KHz.

**Rise and Fall Time (Square Wave)** :  $< 100$ ns.

**Ext. Frequency Counter :**

Frequency Range : 1Hz to 1MHz.

Input Amplitude : 1V to 50V p-p.

Accuracy :  $\pm 0.1\%$  of reading  $\pm 1$  count.

Resolution : Autoranging, depends on input frequency.

1Hz to 9.999KHz - 1Hz.

10KHz to 99.99KHz - 10Hz.

100KHz to 999.9KHz - 100Hz.

$> 999.9$ KHz - 1KHz.

**Power** : 230V AC  $\pm 10\%$ , 47-53Hz.  
Optional 115V AC  $\pm 10\%$ , 57-63Hz.

**Dimensions** : 270 (W) x 88 (H) x 310 (D) mm.

**Weight** : 3 Kg. (approx.).

**Standard Accessories** : 1. Instruction Manual - 1 No.

2. BNC (M) to Alligator Clip - 1 No.

3. Mains Cord - 1 No.

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.