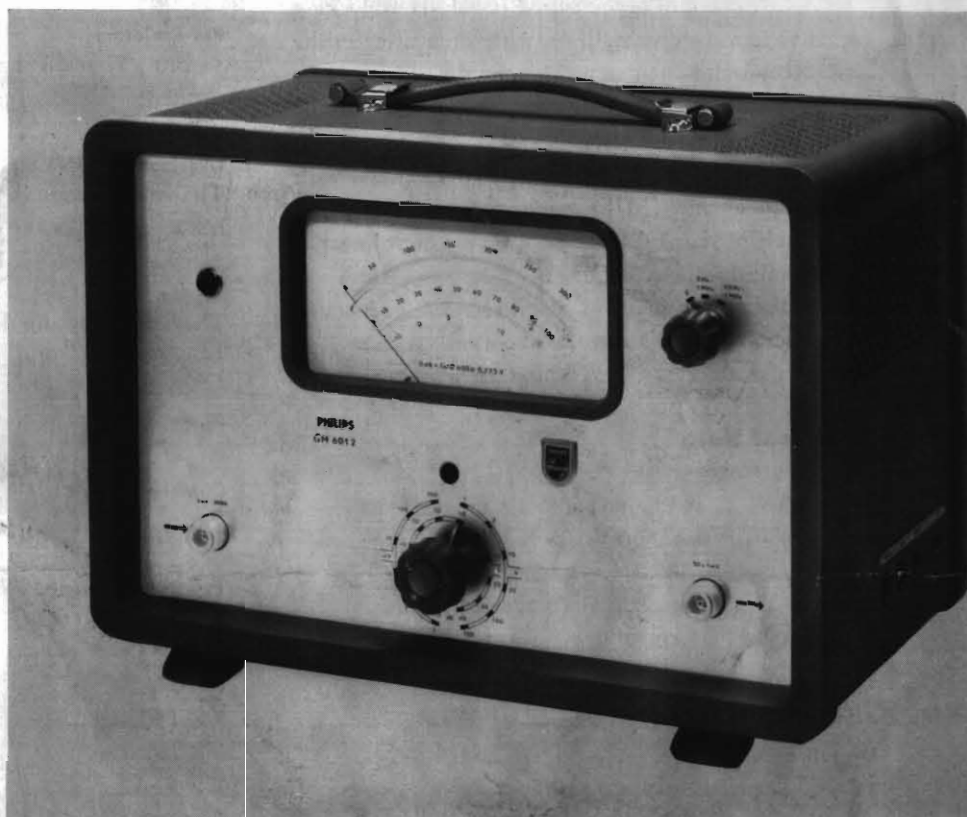


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EM 2 - K 12

**PHILIPS**

**Broadband - Millivoltmeter  
Type GM 6012**



1919

**Features**

- High sensitivity: 100  $\mu$ V ... 300 V
- Large frequency range: 2 c/s ... 1 Mc/s
- High input resistance and low input capacitance
- Protected against overloads
- Independent of mains voltage variations
- 12.5 cm linear scale with anti-parallax mirror reading
- Built-in calibration voltages
- Additional switching position to avoid pointer vibrations at low frequencies
- The broad-band amplifier can be used separately
- Easily portable
- Suitable for use under tropical conditions

Industrial equipment division  
Electronic measuring apparatus  
Broadband - Millivoltmeter  
Type GM 6012



### Applications

The GM 6012 is perfectly suitable for measurements in the acoustical and ultra sonic fields, electrical measurements of mechanical vibrations, measurements on I.F. and A.F. amplifiers and measurements on carrier telephone installations.

### Description

The A.C. voltage to be measured is led via a blocking capacitor to a 6 step amplifier, with attenuators in the first, second and fifth step. This amplifier has a very high stability due to strong feed-back and electronic stabilized supply voltages.

The output voltage is rectified in a Graetz circuit with crystal diodes and fed to a moving coil instrument. As a result of the A.C. feed-back a very high linearity of the scale has been obtained.

The instrument contains a stabilized R.C. generator with automatically controlled output voltages of 30 mV and 10 V.

### Technical data

#### Measuring ranges

0 ... 300 V<sub>r.m.s</sub> subdivided into 12 ranges from  
 0 ... 1 mV till 0 ... 300 V  
 dB scale from -80 dB ... +52 dB  
 0 dB = 1 mW into 600 Ω (0.775 V)  
 Scale length 12.5 cm/5"

#### Frequency range

2 c/s ... 1 Mc/s

#### Overall accuracy

From 5 c/s ... 100 kc/s < 2.5 %  
 from 2 c/s ... 5 c/s and  
 from 100 kc/s ... 1 Mc/s < 5 %

#### Input impedance

1 mV ... 3 V range 4 MΩ parallel with 20 pF  
 10 V ... 300 V range 10 MΩ parallel with 10 pF

#### Max. tolerable direct voltage on the measuring point

300 V

#### Amplifier

When using it as a separate broadband amplifier the amplification is approx. 60 ×

### Calibration voltages

Calibration voltages of 30 mV and 10 V with a frequency of 1 kc/s.

### Stability

A supply mains deviation of ± 10 % will cause a deflection change not exceeding 0.5 % after calibration.

### Pre-deviation

< 100 μV in the 1 mV range (with instrument earthed)

### Overload

The instrument is automatically protected against heavy overloads.

### Supply

The apparatus can be adapted to mains voltages of 110, 125, 145, 200, 220 and 245 V with a frequency of 40 ... 100 c/s.

Power consumption: approx. 45 W.

### Climate

The apparatus can be used under tropical conditions

### Tube complement

5 × EF 80  
 1 × E83F  
 1 × E88CC  
 1 × PCL 82  
 1 × EZ 80  
 1 × 85A2  
 4 crystal rectifiers OA73

### Finish

The instrument is housed in a grey metall cabinet of sturdy and modern design.

### Dimensions and weight

Height 27 cm/11"  
 Width 35 cm/14"  
 Depth 21 cm/8"  
 Weight 10.5 kg/21 lbs

