

10Hz...100kHz frequency range

Symmetrical floating output

Low distortion 0.02%

Output voltage: 30V_{p-p} (asymmetrical), 10V_{p-p} (symmetrical)

Output level indication

Separate TTL and DIN loudspeaker output

Selectable output impedances: variable and stepped attenuation

PM 5109 is an RC oscillator offering a low distortion (0.02% at 1kHz) yet high, 30V_{p-p} (open circuit) output voltage in the asymmetrical mode. It can also be used in a fast settling mode, useful for fast routine work. These features, plus the facility to select asymmetrical or dual floating symmetrical outputs, makes it ideal for telecommunication applications as well as for education, R & D, manufacturing and audio equipment servicing. Both output voltages can be attenuated by a continuous control; the asymmetrical output can also be attenuated in steps of 10dB down to 60dB. Both pure sine waves or square wave signals are available at frequencies from 10Hz to 100kHz; output impedance is switchable for either 600Ω or 50Ω in the asymmetrical mode and 600Ω or LOW Z in the symmetrical mode (see specification).

A DIN loudspeaker connection is provided, which has an impedance similar to the symmetrical low impedance output. This allows direct testing of loudspeakers, regardless of their impedance. A special TTL output for direct connection to TTL circuitry or for synchronization purposes, is also provided. The open circuit output is monitored by a meter on the front panel and the output range in use is indicated by the appropriate LED, from the seven provided.

For applications where the symmetrical output is not required, a special, economical, version, PM 5109S is available.



TECHNICAL SPECIFICATION

PM 5109

FREQUENCY AND CHARACTERISTICS

Nominal range

10Hz...100kHz
(4 subranges, selectable by push-buttons)

Indication

dial (1...10)

Setting error

<±5% ±1Hz

Temperature coefficient

<0.05/K

Long term drift (<7h)

<1.5 x 10⁻³

Short term drift (<15 min)

<0.5 x 10⁻³

Duty cycle

50% fixed

WAVEFORMS

Sine wave

Square wave (output B only)

OUTPUT

Separate outputs selectable with push-buttons

A. Symmetrical output (4 x 4mm connector on front panel)

- a. 2 x 300Ω
 - b. 300Ω + 300Ω
 - c. 2 x low Z
 - d. low Z + low Z
- } not earthed

B. Asymmetrical output (BNC connector at front panel)

- a. 600Ω
- b. 50Ω

Loudspeaker output (DIN connector at rear panel) Only active when output Ad is selected)

TTL Output (BNC connector at rear panel)

Open circuit output voltage (RMS)

0.03...3.16V (output A)
0.1...10V (output B)

Indication

Meter (7 ranges indicated by LED)

Attenuation

10, 20, 30dB calibrated steps selectable in any combination (output B only) plus 30dB continuously adjustable

SINE WAVE

Total harmonic distortion

(for output Aa, Ab, and B)

– low distortion mode
 $<0.7\%$ (10Hz...100kHz)
 $<0.03\%$ (300Hz...20kHz)

– fast settling mode
 $<1.5\%$ (10Hz...100kHz)
 $<0.5\%$ (100Hz...100kHz)

Total harmonic distortion
 (for output Ac and Ad)

– low distortion mode
 $<0.7\%$ (open circuit 20Hz...100kHz)
 $<0.03\%$ (open circuit 300Hz...20kHz)
 $<0.15\%$ (4 Ω load, 20Hz...100kHz)

– fast settling mode
 0.5% (0...4 Ω load, 100Hz...100kHz)

Frequency response of amplitude
 $\pm 0.2\text{dB}$ (1000Hz, outputs A & B, open circuit)
 $\pm 0.5\text{dB}$ (10Hz...10kHz, outputs Ac & Ad, 4 Ω load)
 -6dB (70kHz, outputs Ac & Ad, 4 Ω load)

SQUARE WAVE

Rise and fall time
 $<0.5\mu\text{s}$

Overshoot and ringing
 $<2\%$ ($>20\text{Hz}$)
 $<1\%$ ($>50\text{Hz}$)

TTL

Duty cycle
 50%

Fan out
 20

POWER REQUIREMENTS

Line voltages
 110, 128, 220, 238V $\pm 10\%$.

Frequency
 50...100Hz

Power consumption
 17W

Dimensions and weight
 (wxhxd) 310 x 140 x 330mm
 (12.2 x 5.5 x 13-in)
 PM 5109 6.5kg (14.3lb)
 PM 5109S 5kg (11lb)

ACCESSORIES SUPPLIED

Instruction manual



The specification for PM 5109S is as for PM 5109, without the symmetrical output facility.



PM 5109 being used to check the bandwidth characteristic of a long coaxial cable.

ORDERING INFORMATION

PM 5109 RC generator + output monitor

PM 5109S RC generator 10Hz – 100kHz

OPTIONAL ACCESSORIES

PM 9075 Coax. Cable BNC-BNC

PM 9560 19-in Rackmount adapter