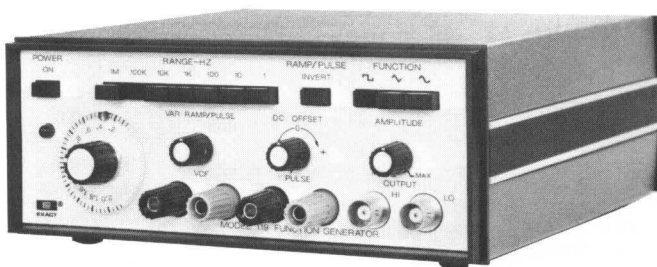


MODEL 119P



MODEL 119

SPECIFICATIONS

DYNAMIC FREQUENCY RANGE:

0.02 Hz to 2.2 MHz (7 ranges).
(0.002 Hz to 200 KHz with "B" option)

FREQUENCY ACCURACY:

$\pm 5\%$ of full scale.

VCF (Voltage controlled frequency):

0 to +10 V for 1000:1 from maximum multiplier setting.
Approx. 10K input impedance.

WAVEFORMS:

Sine, square, triangle, ramp, pulse.

MAIN OUTPUTS:

High output — 20 V P-P open circuit.
10 V P-P into 50 Ohms.
50 Ohms output impedance.
Low output — 632 mV P-P open circuit.
316 mV P-P into 50 Ohms.
50 Ohms output impedance.

(Option K and Model 119P have a single 600 Ohm in place of 50 Ohm outputs.)

ATTENUATOR:

30 dB continuously variable affecting both low and high outputs.

(Option A substitutes 20 and 40 dB steps in place of low output)

DC OFFSET (Variable):

± 10 V to -10 V open circuit.
 $+5$ V to -5 V into 50 Ohms.

Note: Protection circuit will automatically clip waveform if DC offset plus signal exceeds maximum peak voltage.

SINE DISTORTION:

$< 1\%$ 0.2 Hz to 100 KHz. Typically Less than 0.5%.
All Harmonics > 30 dB down 100 KHz to 2 MHz.
Sine distortion measured at full output, between 0.2 and 2.0 on the multiplier dial.

SINE FREQUENCY RESPONSE:

$< \pm 0.1$ dB 0.2 Hz to 100 KHz.
 $< \pm 0.5$ dB 100 KHz to 2 MHz.

SQUARE WAVE:

Rise time: < 100 nsec.
Aberrations: $\pm 5\%$ of max. P-P amplitude.

PULSE OUTPUT:

TTL Compatible.
Amplitude: +3 V open circuit.
Rise time: 25 nsec (typically 10 nsec).
Will sink 20 TTL loads.

AM (119M only):

Approx. 100K Ohm input impedance.
Approx. 5 V P-P for 100% modulation at maximum carrier.
Separate carrier and modulation controls.
Full four quadrant capability.
Double sideband capability.

SWEEP GENERATOR (121 only):

Period range: 1 msec to 10 sec
Period accuracy: $\pm 10\%$ in CAL position
Sweep width: 0 to 1000:1
Ramp output: 2.5 V peak
Sweep Sync output: 5 V peak

POWER REQUIREMENTS

115 VAC $\pm 10\%$ or 230 VAC $\pm 10\%$
50 Hz to 400 Hz. Approx. 10 watts
Other voltages available.
(Model 119P also operates from 12 V DC or up to 8 hrs from its built-in rechargeable battery pack)

PHYSICAL CHARACTERISTICS

18.8 cm wide x 7.3 cm high x 21.6 cm deep.
Weight — Approx. 4.4 Kg (119P is Approx. 10.5 Kg.)

NOTE: (Unless otherwise stated). Specifications apply 10% to maximum output voltage terminated into 50 Ohms 0.2 to 2.0 frequency dial setting. Specifications are valid at $25^\circ\text{C} \pm 5^\circ\text{C}$ after 1 hour warmup time. Specifications not valid in AM mode.