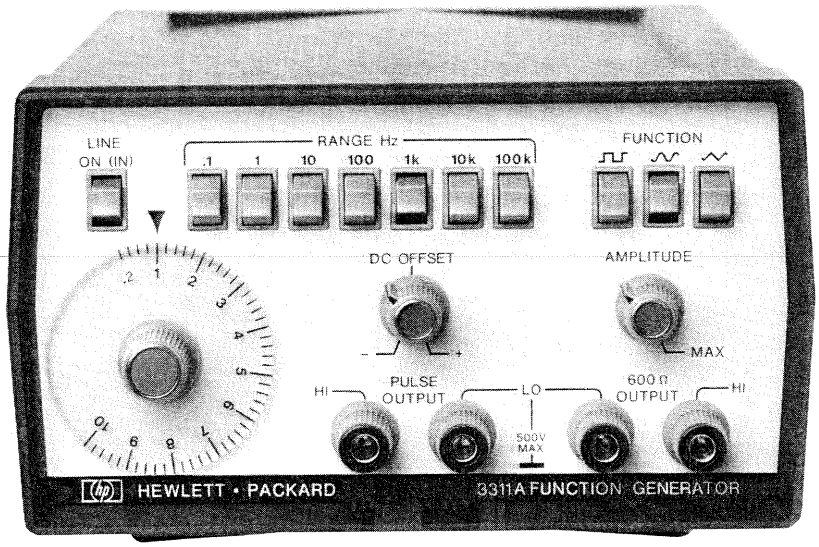

Description

The 3311A Function Generator offers wide functional capability at a modest price. This compact unit has seven decades of range from 0.1 Hz to 1 MHz. Pushbutton range and function selection add convenience to versatility. Added features normally not found on function generators in this price range are 10:1 voltage control and a separate pulse output suitable for synchronization or driving TTL logic circuits.

Output

Ten V p-p into 600 Ω (20 V p-p open circuit). This output may be attenuated by >30 dB by a variable attenuator and offset by ±5 V. The dc offset allows the sine, square, and triangle functions to be positioned to the most desired level. This feature adds to the usefulness of all three functions.

VCO

The dc coupled voltage control allows the use of an external source to sweep the 3311A > 10:1 in frequency.

Pulse Output

A separate TTL compatible pulse output provides current sinking for up to 20 TTL loads. The pulse has a 15/85 aspect ratio with a <25 ns rise time.

Specifications

Waveforms: sinusoid, square, triangle, and positive pulse.
Frequency range: 0.1 Hz to 1 MHz in seven decade ranges.
Dial accuracy: ±5% of full scale.
Isolation: using an external supply, outputs may be floated up to ±500 V relative to the instrument case (earth ground).

600 Ohm Output

Maximum output amplitude: 20 V p-p open circuit; 10 V p-p into 600 Ω.
Amplitude control: continuously variable, >30 dB range. DC offset: up to ±10 V open circuit, ±5 V into 600 Ω, continuously adjustable and independent of amplitude control. Maximum V_{ac} peak + V_{dc} offset without clipping is ±10 V open circuit, ±5 V into 600 Ω.
Output impedance: 600 Ω ± 10%.
Sine wave amplitude flatness: within ±3% of 10 kHz reference (maximum output amplitude) to 100 kHz, ±6% to 1 MHz.
Sine wave total harmonic distortion: <3% (maximum output amplitude).
Triangle linearity: deviation <1% from best straight line at 100 Hz (maximum output amplitude).
Square wave transition time: rise time: <100 ns; fall time: <100 ns.
Square wave time axis symmetry error: ±2% maximum to 100 kHz.

Pulse Output

Output amplitude: >3 V positive (open circuit) TTL compatible.
Duty cycle: 13.5% to 16.5% of the total period.
Transition times: <25 ns.

External Frequency Control

VCO range: >10:1 on any frequency range.
Input requirement: with frequency dial set to 1.0, a linear ramp of 0.0 V to −10 V ±2 V will linearly increase frequency >10:1
Input impedance: 10 kΩ ± 10% in parallel with <60 pFd.

General

Operating temperature: 0°C to 55°C; specifications apply from +15°C to +35°C.
Storage temperature: −40°C to +75°C.
Power: 100/120/220/240 V −10%, +5% switchable: 48 Hz to 66 Hz; ≤12 VA.
Size: 89 mm H x 159 mm W x 248 mm D (3.5″ x 6.3″ x 9.8″).
Weight: net, 1.5 kg (3.3 lb). Shipping, 2.5 kg (5.5 lb).
Rack mount kits: 10851A for one 3311A, 10852A for two.

3311A Function Generator $395