



20 MHz Pulse/ Function Generator

- 0.002 Hz to 20 MHz Frequency Range
- Versatile Pulse and Burst Modes
- Full Function Generator Performance
- Triggered, Gated Bursts, Rate & Width Control
- Full 30 Volts Peak-to-Peak Output

MAIN GENERATOR

Waveforms: Selectable sine, triangle, square, pulses, double pulses and dc.

Symmetry: 1:19 to 19:1.

Operational Modes

Function: Continuous, Triggered, Gated and Burst.

Burst Rate: 1 Hz to 5 MHz in 7 ranges.

Burst Width: 20 ns to 100 ms in 7 ranges.

Frequency Range: 0.002 Hz to 20 MHz in 9 overlapping decade ranges with 1% vernier.

Function Output: Amplitude variable to 30 Vp-p (15 Vp-p into 50Ω). Baseline amplitude variable to 15 Vp-p (7.5 Vp-p into 50Ω). 50 Ω source impedance.

DC Output and DC Offset: Adjustable between ±15 Vdc (±7.5 Vdc into 50Ω) with signal peak plus offset limited to ±15 Vdc (±7.5 Vdc into 50Ω).

Sync Output: TTL level pulse when terminated with 50Ω. 50Ω source impedance.

VCG—Voltage Controlled Generator: Up to 1000:1 frequency change with external 0 to ±5V signal.

Slew Rate: 2% of range per μs.

Linearity: ±0.5% thru ×100K range.

±5% on ×1M and ×10M ranges.

Impedance: 10 kΩ.

Trigger (and Gate) Input

Input Range: 1 Vp-p to ±10V.

Trigger Level Adj: -5V to +5V.

Impedance: 1.5 kΩ shunted by 1.5 pF.

Pulse Width: 25 ns minimum.

Repetition Rate

Input

±1V

±2.5V

Max Rep Rate

1 MHz

10 MHz.

PULSE GENERATOR

Pulse Modes

Normal Pulse: Adjustable width pulse in phase with pulse sync output.

Pulse Delay: Pulse delayed with respect to pulse sync output. Pulse delay and pulse width adjustable.

Double Pulse: Two pulses for every period. Time between pulses and pulse width adjustable.

Sync Delay: Pulse sync output delayed with respect to pulse output.

Pulse Period Range: 50 ns to 500s in 9 decade ranges.

Pulse Width: 20 ns to 100 ms in 7 ranges.

Pulse or Sync Delay: 0 ns to 100 ms in 7 ranges.

Duty Cycle: Up to 75% for pulse widths >100 ns and 50% for pulse widths of 20 ns to 100 ns.

Pulse/Burst Sync Output: TTL level pulse when terminated with 50Ω.

FREQUENCY PRECISION

Dial Accuracy

±3% of full scale from ×0.1 Hz to ×1 MHz.

±5% of full scale on ×10M range.

AMPLITUDE PRECISION

Amplitude Change with Frequency

Sine variation with frequency:

<±0.2 dB on all ranges through ×100K.

<±0.5 dB on ×1M range.

<±1.0 dB on ×10M range.

Step Attenuator Accuracy

±0.3 dB with 10, 20 and 40 dB.

±0.6 dB with 30, 50 and 60 dB.

±0.9 dB with 70 dB setting.

WAVEFORM CHARACTERISTICS

Sine Distortion

<0.5% on ×1K and ×10K Ranges.

<1.0% on ×0.1 to ×100, and ×100K ranges.

All harmonics 30 dB below fundamental on ×1M range, and 25 dB below fundamental on ×10M range.

Square Wave and Pulse

Rise/Fall Time at Function Output BNC:

<15 ns (10% to 90%).

Total Aberrations: 5% of full amplitude (each peak of waveform).

Time Symmetry

Square wave variation from 0.1 to 2 on dial:

<1% to 200 kHz; <10% to 20 MHz.

Triangle Linearity: >99% for 0.002 Hz to 200 kHz.

GENERAL

Stability: Main generator amplitude, frequency and dc offset. After 2 hour warm-up:

±0.05% for 10 minutes.

±0.25% for 24 hours.

Environment: Specifications apply at 23° ±5°C. Operates 0° to +50°C.

Dimensions: 28.6 cm (11 1/4 in.) wide; 13.3 cm (5 1/4 in.) high; 28.6 cm (11 1/4 in.) deep.

Weight: 4.6 kg (10 lb) net; 5.9 kg (13 lb) shipping.

Power: 100/120/220/240V (+5%, -10%), 48 Hz to 66 Hz, ≤70 VA.

FACTORY/FOB

San Diego, CA