



GPS-2100+ Series

Function / Arbitrary Waveform Generators



Clean Edges. Every Point.

The GPS-2100+ series is a dual-channel function / arbitrary waveform generator with a 150 MSa/s sampling rate, 14-bit vertical resolution and a 16 kpts waveform length. A dedicated square-wave circuit carries square output to the full 60 MHz bandwidth with rise and fall times of 4.2 ns.

A dedicated pulse architecture places edges independently of the sample clock, removing the one-clock jitter inherent in traditional DDS designs and holding jitter to 300 ps plus 0.05 ppm of period. Arbitrary waveforms are generated point by point, so no defined point is skipped or repeated, at any length from 2 points to 16 kpts.

Eight modulation types, sweep, burst, a 16th-order harmonics generator and two-channel waveform combining are built in, alongside a 200 MHz frequency counter. USB Host, USB Device and LAN are standard. Available in 30 and 60 MHz models.

KEY FEATURES

- Dual-channel, 30 or 60 MHz bandwidth, up to 20 Vpp output
- 150 MSa/s sampling, 14-bit resolution, 16 kpts waveform length
- Square output to the full 60 MHz with 4.2 ns rise and fall times
- Point-by-point arbitrary generation · 196 built-in waveforms
- Eight modulation types · 200 MHz frequency counter

IDEAL FOR

- Analogue sensor simulation
- Environmental signal replay
- Circuit function test
- IC test and characterisation
- Research and training

TECHNICAL SPECIFICATIONS

GPS-2100+ Series Function / Arbitrary Waveform Generator	
Bandwidth	60 MHz (GPS-2160+) · 30 MHz (GPS-2130+)
Channels	2 · identical, independently configurable
Sampling Rate	150 MSa/s (DDS mode) · 1 μ Sa/s to 30 MSa/s (point-by-point mode)
Vertical Resolution	14-bit
Waveform Length	16 kpts · from 2 pts in point-by-point mode
Waveforms	Sine, square, ramp, pulse, DC and arbitrary · noise to 60 MHz (–3 dB) · 196 built-in arbitrary waveforms
Frequency Resolution	1 μ Hz · initial accuracy ± 25 ppm, first year, 0–40°C
Sine	1 μ Hz to model bandwidth · THD 0.15% (0 dBm, 10 Hz–20 kHz) · harmonics –60 dBc to 10 MHz
Square	1 μ Hz to model bandwidth · rise / fall 4.2 ns · overshoot 3% · duty cycle 0.001 to 99.999% · jitter 300 ps + 0.05 ppm of period
Pulse	1 μ Hz to 12.5 MHz · width from 32.6 ns · edges 16.8 ns to 22.4 s in 100 ps steps
Ramp	1 μ Hz to 500 kHz · symmetry 0 to 100% · linearity 1%
Amplitude Range	4 mVpp to 20 Vpp at or below 10 MHz · to 10 Vpp above · settable from 2 mVpp · halved into 50 Ω
DC Offset Range	± 10 V into high impedance · ± 5 V into 50 Ω
Output	50 Ω impedance · flatness ± 0.3 dB · current ± 200 mA · channel crosstalk –60 dBc
Modulation	AM, DSB-AM, FM, PM, ASK, FSK, PSK and PWM · internal or external source · modulating wave sine, square, ramp, noise or arbitrary at 1 MHz to 20 kHz · keying to 50 kHz
Sweep & Burst	Sweep linear or logarithmic, up or down, 1 ms to 500 s · burst 1 to 1,000,000 cycles, infinite or gated
Harmonics & Combining	Up to the 16th order, even, odd or all, with independent amplitude and phase · two-channel waveform combining
Frequency Counter	0.1 Hz to 200 MHz · frequency, period, pulse width and duty cycle · AC, DC or HF-reject coupling



WHAT'S IN THE BOX

- GPS-2100+ series main unit
- Power cord
- USB cable
- Calibration certificate
- Quick start guide

INTERFACES · USB Host, USB Device (USBTMC), LAN (VXI-11)

POWER · 100–240 Vrms $\pm 10\%$, 50/60 Hz (100–120 Vrms at 400 Hz) · 21 W typical

GENERAL SPECIFICATIONS

Code	Item	Part Number
GPS-2130+	2 channel function / arbitrary waveform generator, 30 MHz, 150 MSa/s, 14-bit, 4.3" TFT	201303
GPS-2160+	2 channel function / arbitrary waveform generator, 60 MHz, 150 MSa/s, 14-bit, 4.3" TFT	201600

Sine and square output reach the full model bandwidth. Pulse reaches 12.5 MHz and ramp 500 kHz on both models. Please contact us for pricing and lead times.

MASS

3.43 kg (main unit) · 4.35 kg (with packaging)

OPERATING

0°C to 40°C · storage –20°C to 60°C · altitude to 3048 m

WARRANTY

1 year (subject to product registration)

DIMENSIONS

260.3 × 107.2 × 295.7 mm (w × h × d)

HUMIDITY

$\leq 90\%$ RH ($\leq 30^\circ\text{C}$) · $\leq 50\%$ RH (40°C)

CERTIFICATION

LVD IEC 61010-1:2010 · EMC EN 61326-1:2013