



DS INSTRUMENTS

SG12000PRO PURESINE GENERATOR



Description

The DS Instruments **SG12000PRO** RF Signal Generator continues to set the industry standard in affordable ultra-compact RF Signal Generation. The SG12000PRO provides a pure low-harmonic signal unlike most other compact signal generators. This fully synthesized, modern fractional-N synthesis device covers from 10 to 15000MHz. Output power is adjustable in steps and continuously over the entire frequency range. The bright OLED display provides useful feedback for the user, and front control buttons provide a quick alternative to USB control. This PRO version has phase noise approximately 30dB lower than the standard **SG12000**, a much

smaller minimum frequency step size (2Hz vs 5KHz), a more accurate output level attenuator, a wider frequency range, and higher max output power.

Now shipping REV 3 for 2021!

Premium SG12000PRO Microwave Generator Features:

- Internal harmonic filtering (< -30dBc typical)
- Ultra-Low phase noise at 12GHz (-94dBc @ 10KHz)
- Stand-alone and USB remote operation
- Up to 15GHz output frequency
- Tiny frequency step size
- Adjustable output power (70dB Range) (Step & Variable)
- Industry-standard **SCPI** command support
- Internal ultra-low phase-noise 100MHz reference
- Front user frequency step buttons
- List and Scan frequency-sweeping functionality
- Front-mounted bright OLED display
- Simple Windows control GUI
- Powered from standard USB-C
- Easy to interface with any software packages (.NET, Matlab, python, android, linux...)
- Ethernet now included as standard!

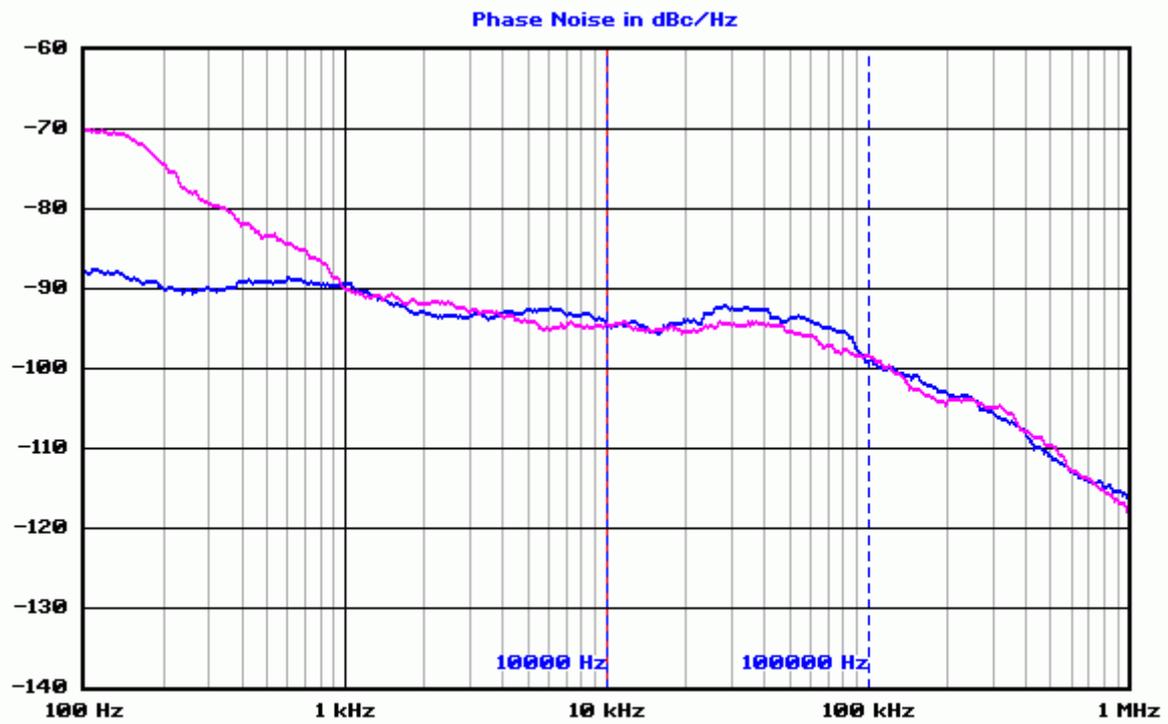
RF Signal Generator Specifications:

- Highest Harmonic Levels: -30dBc typical (1-13GHz)
- Frequency Range: **50-13000** MHz (10-15000MHz uncalibrated mode)
- Power Output Level: -45dBm to +15dBm
- Phase Noise at 12GHz: **-94dBc @ 10KHz** offset
- Minimum frequency step size: **2Hz**
- Internal Attenuator (digital 0-6GHz): 64dB (250 x 0.25dB Steps)
- Internal Attenuator (digital 6-13GHz): 64dB (128 x 0.50dB Steps)
- Internal Attenuator (variable 0-15GHz): ~15dB (10 bit DAC)
- Dimensions: 2.75" x 1.25" x 5.15"
- Input Voltage: 5V Standard USB-C (1.50A max)
- Output Impedance: 50 Ohm
- RF Connector: Premium gold 18GHz microwave SMA

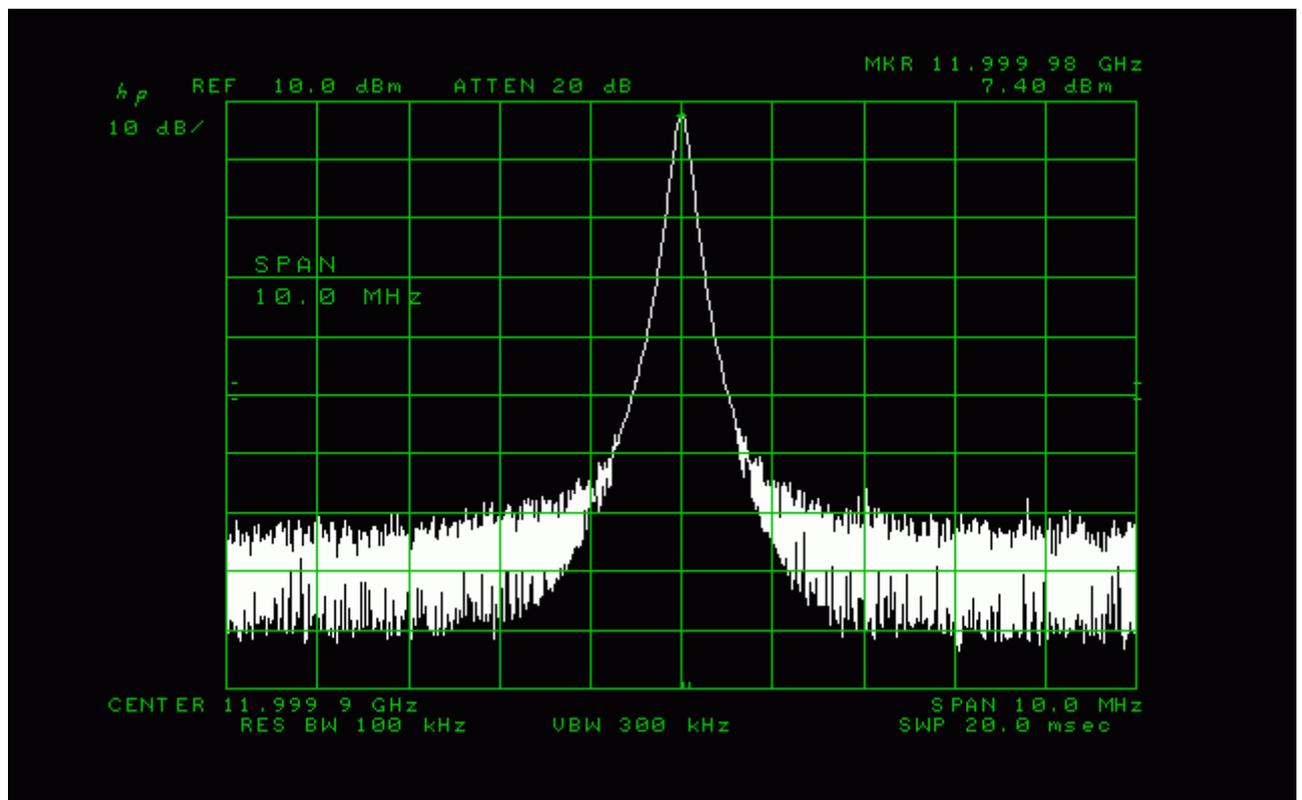
Signal Generator Common Applications:

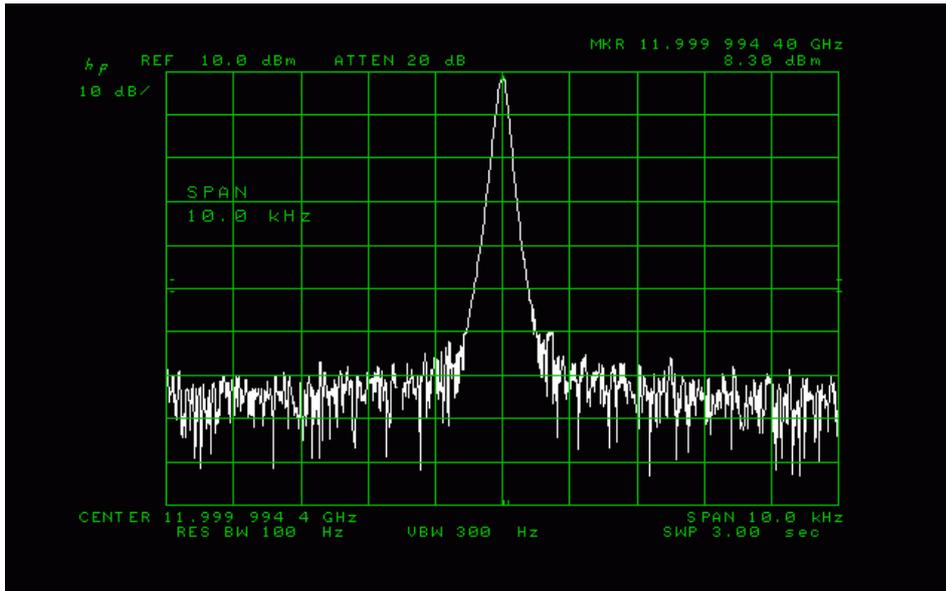
- Automated testing environments
- General RF Lab use
- Flexible LO sourcing
- Antenna design
- EMC Testing
- Production verification and testing
- Educational / university lab use
- Aerospace / Defense Research
- 802.11n Development / Testing
- LTE Engineering

SG12000PRO REV 3 Performance and Charts:



Trace	Carrier Hz	dBc/Hz at 10000 Hz	RMS Jitter
SG12000PRO-free	11 999 990 000	-94.6	1.1E-013 s
SG12000PRO-lockedExt	12 000 000 000	-94.4	9.1E-014 s





Mechanicals:

