



DS INSTRUMENTS

## 12GHZ SIGNAL GENERATOR



### Description

The DS Instruments **SG12000** (SG6000LD) compact RF Signal Generator enables users to generate a high quality RF signal easily and at low cost. The output covers the entire **25 – 12000MHz** frequency block. The produced wave is fully synthesized

using modern fractional N synthesis. RF output step size varies from a maximum of ~6 KHz to less than 40 Hz, depending on band of operation. The synthesized source can accept an external 10 MHz reference, OR it can use its own internal 10 MHz TCXO. Output power is calibrated to +10dBm and can be set in 0.5dB steps over the entire frequency range. The crisp OLED display provides useful feedback for the user, and front control buttons provide a quick alternative to USB control. Optional Ethernet is now available, and full band RF power control is standard as of July 2018. Like most of our products, the SG12000 easily fits in the palm of your hand, making it a truly portable and bench-space-saving device.

**New REV15 with tighter power calibration and input voltage filtering shipping as of 2021!**

*Low-phase-noise, harmonic-filtered PRO performance version here: [SG12000PRO!](#)*

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### Microwave Signal Generator Specifications:

- Frequency range: **25MHz – 12GHz**
- Calibrated power level range: -20dBm to **+10dBm**
- Uncalibrated power level range: -35dBm to +12dBm typical
- Power control resolution: 0.5dB steps + 0.1dB vernier (variable attenuator)
- Dimensions: 2.75" x 1.25" x 3.15"
- Frequency step size: 40-6000Hz (depending on output frequency)
- Phase noise at 6GHz: -72dBc @ 10KHz offset
- Power Input: 5V Standard USB-C (0.75A)
- Output Impedance: 50 Ohm
- RF Connectors: Gold 18GHz SMA

### Compact SG12000 (SG6000LD) Features:

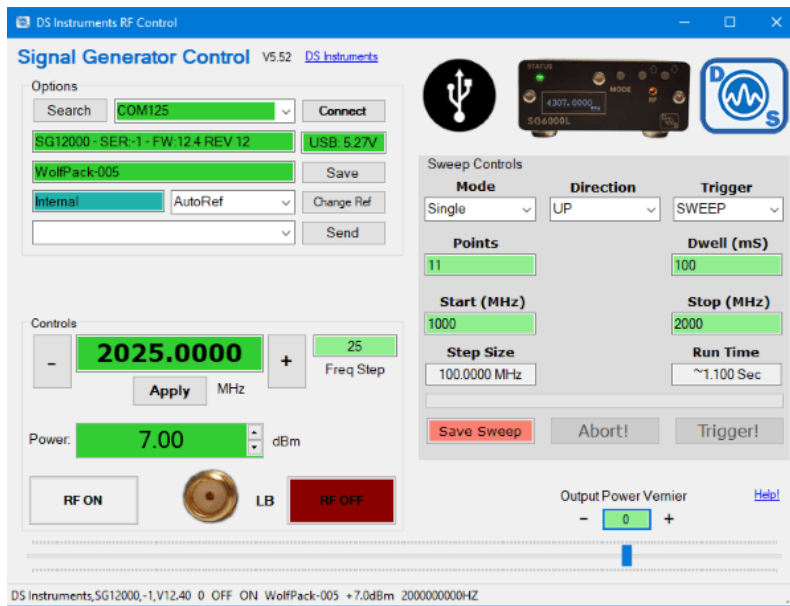
- Adjustable output power over the entire band
- Frequency-sweeping support
- External reference frequency input (10 MHz MCX)
- Internal 10MHz TCXO auto-reference (+/-280PPB)
- Professional industry standard SCPI command support
- Front frequency user frequency step buttons
- Front-mounted bright OLED display
- Sturdy all-aluminum black enclosure
- Low input voltage monitor
- **Optional** Ethernet port
- Intuitive Windows control GUI

### Common Applications:

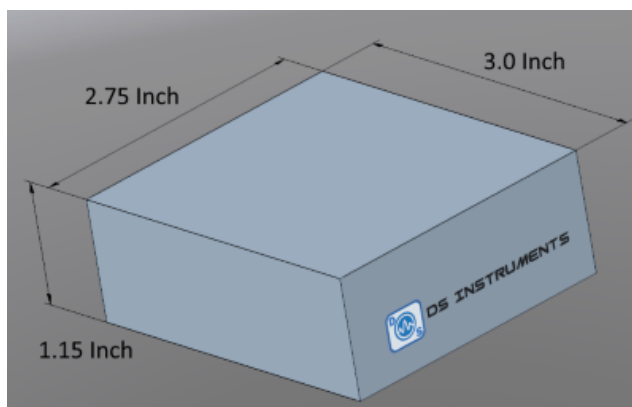
- Automated testing environments
- Radar systems
- General RF Lab use
- Flexible LO sourcing
- Antenna design
- EMC Testing
- Production verification and testing
- Educational / university lab use
- Aerospace / Defense Research
- X-band test setups

Featured on [Microwave Journal](#), [Microwaves&RF](#), [Military&Aerospace Electronics!](#)

USB / Ethernet Control Software:



Enclosure Mechanical Information:





Trace	Carrier Hz	Carrier dBm	dBc/Hz at 10000 Hz	RF Atten dB	VBW/RBW	Sweep
SC600027-INT	5 000 000 000	8.00	-72.5	10	1.00	70s