

The modern signal generator has evolved into a complex, expensive instrument. To provide an alternative for many test scenarios in which only a high-quality CW source is required, dBm introduces the SSG synthesized CW signal generator. This instrument focuses on the basics: simplicity, connectivity, and excellent RF performance in a small and low cost solution.

Sharing resources within a lab or facility often means carrying test equipment around a crowded lab. The SSG is so small and light it can be held with one hand, yet it has enough mass to stay planted on the workbench with heavy coax cables attached to it.

The SSG gives up little or nothing in terms of performance to other generators which can be more than twice the price. Phase noise performance is excellent, and switching speed is much faster than YIG based signal generators.

Front panel control of the frequency and amplitude is achieved with a combination of buttons and a rotary knob. Step size is determined by positioning the cursor at the desired digit and turning the knob, or an arbitrary step size can be set independently for the frequency and amplitude.

The SSG can function within an automated test system, since it can be remotely controlled via IEEE-488.2, RS-232, and 10/100BaseT Ethernet. This combined with its fast settling time makes it a good choice for high-volume production environments.



## Applications

- ◆ A laboratory workhorse
- ◆ Programmable LO for frequency converters
- ◆ Frequency hopping source
- ◆ RF device characterization
- ◆ Tracking generator source

## Features

- ◆ Low noise (-103 dBc/Hz 1 kHz offset @ 1GHz)
- ◆ Fast switching (< 200 usec typ.)
- ◆ Small and lightweight (10" x 10" x 3")
- ◆ Non-volatile memory for storage/recall of instrument settings
- ◆ IEEE-488.2, LAN, and RS-232 interfaces standard

## Options

- ◆ File driven hopping/swept frequency mode

# Specifications

**Frequency Range** 10 MHz to 4000 MHz  
**Frequency Resolution** 10 Hz up to 1999.99999 MHz  
 20 Hz for 2000 - 4000 MHz  
**Frequency Accuracy** +/- 2 PPM internal reference  
 or per external reference  
**Frequency update rate** 2 ms via LAN or GPIB

**Settling time**  
 Standard: 200 msec typical

**Spectral Purity**  
 Phase Noise:  
 at 1 GHz  
 - 58 dBc @ 10 Hz  
 -81 dBc @ 100 Hz  
 -103 dBc @ 1 kHz  
 -107 dBc @ 10 kHz  
 -108 dBc @ 100 kHz  
 -128 dBc @ 1 MHz  
 Spurious: <-50 dBc  
 Output noise floor: <-145 dBm/Hz  
 2nd Harmonic: <-20 dBc  
 3rd Harmonic: <-30 dBc

**Output Power**  
 Power Range: +10 dBm to -30 dBm  
 Power Resolution: 0.1 dB  
 Power Accuracy: +/- 0.5 dB -20 to +10 dBm  
 +/- 0.75 dB < -20 dbm

**Impedance** 50 ohms  
**VSWR** 2:1 maximum into 50 ohms  
**External Reference** 10 MHz sine, 0 dBm +/- 3 dB

**Environmental**  
 Operating Temperature: 0°C to +35°C  
 Shock and Vibration: MIL-PRF 28800F  
 Type III Class 4  
 EMI: MIL-STD 461B RE02  
 Part 2 and CISPR II

**Control and interface**  
 Local interface Front panel keypad & display  
 Remote interface: IEEE-488.2, LAN, RS-232

**Primary power**  
 Voltage: 90-264 VAC autoranging  
 Frequency: 48-66 Hz  
 Consumption: 40 VA, maximum  
 Fuse: 1A, slow-blow

**Physical**  
 Ambient operating temp: 0° to 35° C  
 Dimensions: 10" W x 2.75" H x 10" D

## Ordering Information

Model No.	Description
SSG - 10/4000	10MHz to 4000MHz

### Distributor



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