

# SRC20 *Signal Generator*

The SRC20 is a powerful, value-priced digital signal generator in a durable, hand-held package. This lightweight waveform generator is ideally suited for laboratory and field requirements. It provides extremely stable, and statistically repeatable source signals used in applications such as reverberation measurements, vibration excitation, audio system equalization, and electronic measurements.

The SRC20 can be powered by one on-board 9-volt battery, or by its AC/DC power adapter. It is also supplied with a serial interface for remote communication and control. On-board memory allows you to store and recall up to eight unique measurement setups. Operating the SRC20 is simple with its intuitive, menu driven user interface.

## *A versatile companion*

- 1 **Pink and White Noise Generator** capable of generating extremely accurate, low distortion noise to 20 kHz. These noise signals can also be output in a pulse mode, which can be adjusted from 1 ms to 25,000 seconds
- 2 **Sine Wave Generator** offering a frequency range from 0.01 to 25 kHz. It can generate steady-state sine wave signals, or perform linear or logarithmic sine sweeps. The sweep time can be set from 1 ms to 25,000 seconds. In logarithmic sweep mode, the sweep rates can be set from 0.001 to 20 decades/second.



## *Wide variety of applications*

### *Research and Development*

- Reverberation Measurements
- Transmission Loss
- Sound Insulation
- Frequency Response of Audio Components
- Frequency Response of Audio Recording Equipment
- Vibration Testing
- Mechanical Impedance
- Production Testing

## *Perfect integration with Real Time Analyzers*

The SRC20 is the ideal partner for use with spectrum analyzers that have time or frequency triggering capability. The unit will output fixed broadband levels, or specific frequency amplitudes.



# Technical Features

## Specifications

### Frequency Characteristics

- Sine Wave: 0.01 Hz to 25 kHz
- Pink Noise: 20 Hz to 20 kHz
- White Noise: 1 Hz to 20 kHz
- High Sine: 250 Hz to 126 kHz

### Sine Wave Spectral Purity

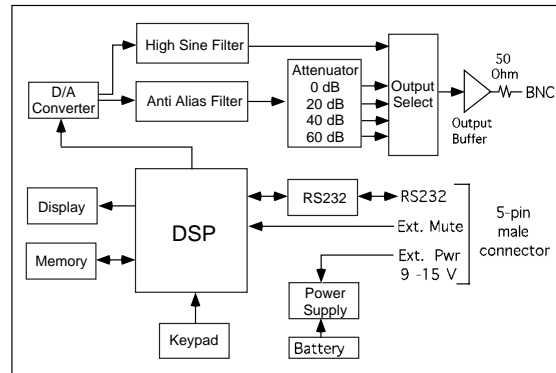
- Harmonic Distortion
- 1 Hz to 10 kHz: 80 dBc
  - 10 kHz to 20 kHz: 65 dBc

### Output Characteristics

- Sine Wave Amplitude:  
40-120 dB $\mu$ V (100  $\mu$ V to 1 Vrms)
- Sine Wave Accuracy (at 1 kHz):  
 $\pm 0.02$  dB (max)
- Sine Wave Flatness (relative to 1 kHz):  
< 10 kHz:  $\pm 0.1$  dB (max)  
10 kHz to 16 kHz:  $\pm 0.2$  dB (max)  
20 kHz to 25 kHz:  $\pm 0.8$  dB (max)
- High Sine Flatness (rel. to 1kHz using computer command)  
250 Hz to 10 kHz, 0.00 dB  $\pm 0.1$  dB  
12.5 kHz, -0.02 dB  $\pm 0.1$  dB  
15.75 kHz, -0.04 dB  $\pm 0.1$  dB  
20.0 kHz, -0.06 dB  $\pm 0.1$  dB  
25.0 kHz, -0.10 dB  $\pm 0.2$  dB  
31.5 kHz, -0.16 dB  $\pm 0.3$  dB  
40.0 kHz, -0.26 dB  $\pm 0.4$  dB  
50.0 kHz, -0.41 dB  $\pm 0.6$  dB  
63.0 kHz, -0.65 dB  $\pm 0.8$  dB  
79.4 kHz, -1.02 dB  $\pm 1.0$  dB  
100.0 kHz, -1.55 dB  $\pm 1.5$  dB  
126.0 kHz, -2.30 dB  $\pm 2.0$  dB
- High Sine Frequency Resolution: 250 Hz
- High Sine Amplitude Accuracy at 1 kHz:  $\pm 0.1$  dB
- High Sine Amplitude Resolution: 0.01 dB
- Pink Noise Output Level (set at 120 dB):  
0.04 to 0.058 Vrms  
0.0476 Volts (-26.4 dBV) Typical
- White Noise Output Level (set at 120 dB):  
0.25 to .28 Volts  
0.27 Volts (-11.3 dBV) Typical
- Output Impedance: 50 ohms
- Connector: BNC Female

### Frequency Sweep

- Type: Linear or logarithmic
- Direction: Up or down
- Start/Stop Frequency (direction changes at zero crossing): 0.01 Hz to 25 kHz
- Times: 1 ms to 25,000 seconds
- Rates: 0.001 to 20 decades/second



SRC20 Block diagram

### Sine Burst

- Cycles: 1 to 999 Million

### Pulsed Noise

- Times: 1 ms to 25,000 seconds

### Power Supply

- Internal: 9 Volt Battery (NEDA 1604A IEC 6LR6)  
Battery Life: 11 hours (no external AC load)
- External: 6 to 16 Vdc (SRC20 uses internal or external which ever is higher)
- Power Consumption: 37 mA @ 9V, 340 mW

### General

- Operating Environment:  
0 to 50° C, 95% RH non-condensing
- Dimensions (W x H x D):  
3 x 1 x 6.5 in. (7.62 x 2.54 x 16.5 cm)
- Weight: 7.9 oz. (246 grams)
- Remote Interface: RS-232

### Accessories

- Alkaline battery, 9-volt
- User manual
- AC/DC adapter (U.S. only) 115 VAC to 9 VDC (5-pin)
- Cordura nylon pouch

### Optional Equipment

- PSA025 - AC/DC adapter, 220 VAC to 9 VDC (used to power SRC20 through RS-232 connector)
- CBL101 - Cable, power, RS-232 (connects SRC20 to RS-232 and external power source)
- CBL034 - Cable, power, SRC20 to non-terminating leads
- CBL035 - Cable, power, SRC20, alligator clips (connects SRC20 to customer-supplied external battery or power supply using alligator clips)

Specifications are subject to change without notice.

Please contact your local Larson Davis representative or reach us directly for more information.



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