Signal Hound®

SA124B Real-Time Spectrum Analyzer

Signal Hound designs and builds powerful, affordable spectrum analyzers and signal generators for engineers, operators and RF professionals around the globe.

DIVERSE ANALYSIS TOOL FOR GENERAL FIELD AND LAB USE, DELIVERING ACCURATE DATA WITH FAST SWEEPS AND WIDE DYNAMIC RANGE.

The SA124B is the perfect tool for general field and lab use, electrical engineering students, ham radio enthusiasts, and electronic hobbyists alike. This software defined radio (SDR) is optimized as a 12.4 GHz spectrum analyzer and measuring receiver that is compact and simple to use as an effective tool for troubleshooting. Using the latest innovations in RF technology, the SA124B has the sensitivity, accuracy and dynamic range that exceeds expectations. This impressive product features real-time mode for spans of 250 kHz or less and it can be used as a down-converter with a 63 MHz IF output and a 6 MHz resolution bandwidth.

APPLICATIONS

- General Purpose RF Test & Measurement
- Manufacturing Test
- Interference Monitoring
- Antenna Peaking
- AM/FM/SSB/CW demodulation
- Downconverter
- TV Tuner
- Scalar Network Analysis: When paired with Signal Hound's TG124A Tracking Generator

FEATURES

- RF Frequency Range: 100 kHz to 12.4 GHz
- Wide dynamic range: -151 dBm to +10 dBm
- Resolution bandwidths of 0.1 Hz to 250 KHz and 6 MHz
- Includes a High Dynamic Range Measuring Receiver
- I/Q Data up to a 240 KHz bandwidth
- Frequency Sweeps up to 140 MHz per second

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SA124B Real-Time Spectrum Analyzer & Measuring Receiver

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Production Specifications

Frequency Range	100 kHz to 12.4 GHz
Resolution Bandwidth	1 Hz to 250 kHz and 6 MHz
Displayed Average Noise Level (DANL) (dBm/Hz)	Input Frequency Range — dBm/Hz • 100 kHz to 10 MHz — -147 dBm • 10 MHz to 100 MHz — -151 dBm • 100 MHz to 3.0 GHz — -152 dBm • 3.0 GHz to 5.5 GHz — -145 dBm • 5.5 GHz to 7.0 GHz — -149 dBm • 7.0 GHz to 8.0 GHz — -147 dBm • 8.0 GHz to 11 GHz — -134 dBm • 11 GHz to 12.4 GHz — -129 dBm
Internal Frequency Reference Accuracy	± 1 ppm (standard); 0.1 ppm (option-2)
Timebase Accuracy	10 MHz reference in and out
Amplitude (RBW ≤100 kHz)	Range: + 10 dBm to Dispalyed Average Noise Level (DANL) Absolute Accuracy (0dB to DANL) • ±1.5 dB (100 kHz to 6 GHz) • ±2.5 dB (6 GHz to 12.4 GHz)
IF Output	• 63 MHz with 6 MHz bandwidth for down conversion of NTSC, PAL, SECAM, ATSC, and DTV formatted signals
Residual Responses (RBW = 6.5 kHz)	• 100 kHz to 10 MHz — -100 dBm • 10 MHz to 8 GHz — -93 dBm • 8 GHz to 11 GHz — -82 dBm • 11 GHz to 12.4 GHz — -85 dBm
SSB Phase Noise at 10 GHz Center Frequency (Typical)	Offset Frequency — dBc/Hz • 100 Hz — -72 • 1 kHz — -80 • 10 kHz — -87 • 100 kHz — -87 • 1 MHz — -110
Measuring receiver (typical after 30 minute warm-up and ±3°C of reference start temp)	• Operating Frequency: 100 kHz to 12.4 GHz • Modulation Measurement Accuracy: ±1% for AM & FM • Synchronous Level Detector • ±0.25 dBc (0 dBm to -127 dBm, 100 kHz to 1.0 GHz) • ±0.25 dBc (0 dBm to -117 dBm, 1.0 GHz to 6.0 GHz) • ±0.25 dBc (0 dBm to -102 dBm, 6.0 GHz to 12.4 GHz)
Operating Temperature	Standard (passive cooling) 32°F to 122°F (0°C to +50°C)
Size and Weight	• 7.65” x 3.18” x 1.18” (194mm x 80mm x 30mm) • .74 lbs. (0.33 kg)
Power Consumption	• 4.5 Watts (typ)
Interface	USB 2.0
System Requirements	Windows Operating System

Ordering Options
Standard, Temperature Range 32°F to 122°F (0°C to +50°C)
Option 2, OCXO Timebase