

# Powerful Acoustic and Audio Signal Analysis in a Portable, Handheld Audio Analyzer, For Fast, Accurate Sound System Analysis and Calibration

## Audio Analyzer for Designers and Consultants:

\* Sound Reinforcement \* Live Sound \* Distributed Sound \* Industrial Sound



## SP495 Audio Consultant Standard Features:

- FFT Analyzer
- Real-Time Analyzer
- Sound Level Meter
- LEQ Meter
- Sound Study Graph
- Energy-Time Graph
- Reverb Decay Time
- Impedance Meter
- Polarity Tester
- Signal Generator
- Frequency Counter
- Signal Level Meter
- Cable Tester
- USB audio preamp
- Impulse Recorder\*
- Stereo Recorder\*
- SD memory card\*
- Digital audio outputs\*
- High Resolution Color LCD\*

\* Exclusive SP495 features

## Here's What the SoundPro Audio Consultant Delivers:

The SP495 Audio Consultant provides a standard set of SoundPro functionality:

- Fast and accurate adjustments of speaker coverage and cluster alignment, time delays and speaker frequency response equalization to ensure a high-performance, problem free installation.
- Optional firmware add-ons - TechBench (electrical signal/component tests), Speech Intelligibility (ALCONS, RaSTI, STI-PA), Time Delay Analysis (TDA), NoiseCurves (NC, RC, PNC), Transmission Loss (STC, NIC), Multi-Band Decay, and Audio Stethoscope; you'll never be caught short.
- Portable, battery-operated (5 hours run time) handheld instrument in a ruggedized case means you can make precise audio system measurements wherever you do commercial audio work.

Beyond standard SoundPro functionality, the SP495 Audio Consultant also provides:

- High resolution color LCD, dual-FFT processing, faster audio codec, bi-directional stereo audio USB interface, digital audio outputs (S/PDIF, Toslink & USB), and high level analog audio outputs.
- Impulse Recorder for recording room impulse response for input to acoustic analysis programs.
- Stereo Recorder for providing broadcast quality, 48 kHz stereo audio recordings.
- Removable SD memory card for transferring Impulse Recorder and Stereo Recorder wav files.

# Specifications

<p><b>SPL</b> Range: 25-105 dBA with supplied mic 25-146 dBA with precision mic Accuracy: <math>\pm 0.3</math> dB, steady state Resolution: 0.1 dB</p> <p><b>RTA, FFT Analyzer</b> Level range: 25-105 dBA with supplied mic 25-146 dBA with precision mic Level accuracy: <math>\pm 0.5</math> dB with supplied mic Level resolution: <math>\pm 0.5</math> dB Frequency range: 20 Hz – 20 kHz Frequency accuracy: <math>\pm 1\%</math></p> <p><b>Energy-Time Graph (ETG)</b> Range: 0-7680 ms Accuracy: Better than <math>\pm 1\%</math> of full scale Resolution: <math>\pm 1</math> graph pixel</p> <p><b>Signal Generator</b> Pink, white, sine, square, impulse, sine sweep, log-swept sine sweep Range: 20 Hz – 20 kHz Level: -35 dBu – 17 dBu Flatness: <math>\pm 0.05</math> dB, 20 Hz – 20 kHz THD: &lt; 0.01% at full-scale sine output</p>	<p><b>Reverb Decay Time</b> Cycled pink noise Range: 0-15 sec Accuracy: <math>\pm 2\%</math> of full signal Resolution: 10 ms</p> <p><b>Level/Frequency Meter</b> Level range: +40 dBu to -85 dBu Level accuracy: <math>\pm 0.5</math>dB from 20 Hz-20 kHz Frequency range: 20 Hz – 20 kHz Frequency accuracy: <math>\pm 1</math> Hz</p> <p><b>Audio Scope</b> Sample rate: 48 kHz Accuracy: <math>\pm 1</math> display pixel</p> <p><b>Polarity Test</b> Range: 0-500 ft, speaker to mic Shows polarity of mid-frequency wave front</p> <p><b>Impedance Meter</b> Accuracy/Range: 1 ohm to 50 ohms, <math>\pm 2\%</math>, 50 Hz – 12.5 kHz 1 ohm to 8 kohms, <math>\pm 10\%</math>, 20 Hz – 20 kHz</p>	<p><b>Distortion Meter</b> THD, IMD Range: 0.02% to 50% Accuracy: <math>\pm 5\%</math> of reading</p> <p><b>Supplied Microphone</b> IEC651 Type 2-compliant 20Hz-20kHz <math>\pm 0.5</math>dB to 5kHz, <math>\pm 2</math>dB to 20kHz noise <math>\leq 30</math> dBa max SPL 105 dB peak 8 mV/Pa, -43 dBV/Pa <math>\pm 3</math> dB</p> <p><b>Input Impedances</b> XLR and balanced inputs: 40 kohms RCA unbalanced inputs: 20 kohms</p> <p><b>Output Impedances</b> XLR and balanced outputs: 300 ohms RCA unbalanced outputs: 150 ohms</p> <p><b>Power</b> AC power adapter Battery: Li-Ion pack provides 2-3 hours of service, depending on usage.</p>
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## SP495 Inputs



## SP495 Outputs



## Options for Your SP495 To Meet Your Audio Test Needs:

### Firmware Modules

- TechBench** – Amp/Imp Sweeps, Distortion, Phase Meter, Cross Talk, and Audio Scope electrical signal tests.
- Speech Intelligibility** – % ALCONS, RaSTI, STI-PA (test waveforms included on CD).
- TDA** – Time Delay Analysis. Time-windowed loudspeaker or room response analysis with log-swept sine wave stimulus (includes TerraLink software).
- Noise Curves** – Octave band ambient noise analysis per standard NC, RC, and PNC criterion curves.
- Transmission Loss** – Measures STC/NIC noise transmission through room partitions.
- Multi-Band Decay** – Computes and displays the RT60 reverberation decay time for 7 octave bands at once.
- Audio Stethoscope** – Filters incoming audio through weighting curves, octave filters, or 1/3 octave filters.

### Software

- TerraLink Software** – Real-time PC interface. Measurement memory downloads. Report generation.

### Hardware

- Precision Low-Noise Microphone** – IEC651 Type 1-compliant, omni-directional condenser, P48, high sensitivity (100mV/Pa), 20Hz-20kHz  $\pm 1.5$  dB, equivalent noise  $\leq 17$ dbA, max SPL 146dB peak.