ROOM ACOUSTICS

SOLUTIONS FOR ROOM AND BUILDING ACOUSTICS MEASUREMENTS

LARSON DAVIS
A PCB DIVISION

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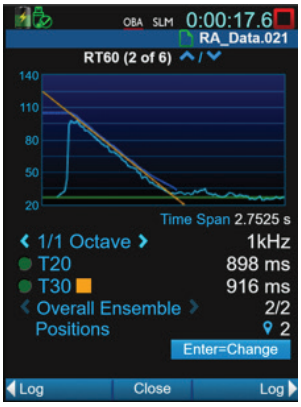
ROOM AND BUILDING ACOUSTICS

Whether for performance venues, architectural measurements, or work-place acoustics, reverberation time is a key parameter for characterizing a room. Reverberation time data provides information about the quality of sound as perceived by the audience in a room. A long reverberation time can make speech less intelligible, and music more pleasing. Too short a reverberation time can muffle speech and make a room sound "thin." The SoundAdvisor™ Sound Level Meter Model 831C-RI with Room Acoustics Firmware 831C-RA offers reverberation time measurement and calculation.

SOUNDADVISOR™ SOUND LEVEL METER WITH ROOM ACOUSTICS

- Calculates reverberation time (RT60)
- Ensures measurement reliability with ensemble averaging
- Serves as a pink and white noise source
- Supports optional amplifiers and omnidirectional or façade speakers
- Triggers measurements automatically
- Provides 1/1 and 1/3 octave filters for computation of reverberation time
- Offers measurement quality indicators and grading according to ISO standards

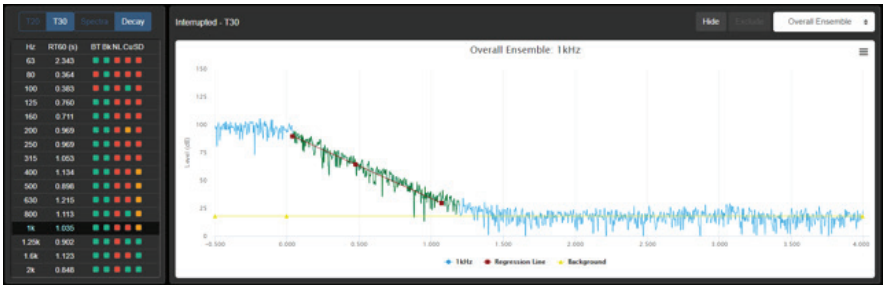


RT60 Decay Using Impulsive Noise Method

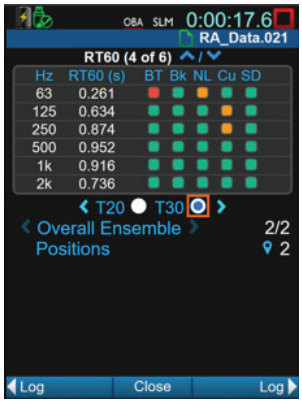
SIMPLIFY MEASUREMENTS WITH SOFTWARE SOLUTIONS

Manage measurement setup to results reporting with the powerful G4 LD Utility Software

- View individual decays or ensemble averages
- Identify and exclude questionable decays from final results
- Easily create and share reports



Want to be more mobile? Wirelessly control reverberation time measurements and view real-time results using the LD Atlas™ app, available for Android™ and iOS.



Measurement Quality Indicators

UPGRADE OPTIONS

Already own a SoundAdvisor Sound Level Meter or System? Add room acoustic tools to your Sound Level Meter without returning it to the factory by adding Model 831C-RA Firmware.

SOUND SOURCES

Larson Davis offers a range of sound sources and accessories for a complete measurement solution.

OMNIDIRECTIONAL SOUND SOURCE
MODEL BAS001

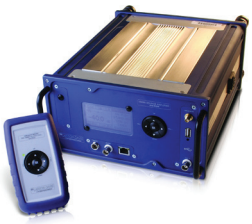
The BAS001 Source is designed to generate omnidirectional sound fields for making standards compliant measurements.

DIRECTIONAL SOUND SOURCE
MODEL BAS003

The Directional Sound Source is designed to generate homogeneous sound fields using random noise.

BUILDING ACOUSTICS SOUND SOURCE AMPLIFIER
MODEL BAS002

When coupled with the BAS001 Omnidirectional Speaker or BAS003 Directional Speaker, the BAS002 Amplifier creates the ideal sound source for making room and building acoustics measurements.



TAPPING MACHINE FOR IMPACT NOISE EXCITATION
MODEL BAS004

The Tapping Machine is used to simulate foot fall noise in a manner that is well controlled and reproducible so that measured results can be replicated and compared with other measurements.

IMPULSIVE NOISE SOURCE
MODEL BAS006

The Clapper is an innovative device used to create impulsive noise that includes low frequency energy and avoids problems like secondary bounce.

EQUIPMENT RENTAL

Need Room Acoustic Measurement Solutions for a one-time test?

The Modal Shop, our sister company, offers a Rental Program that is an ideal way to access state-of-the-art technology at a fraction of the cost.

Contact our team of experts, tell us about your testing needs, and we'll help you determine the best rental plan for your situation: rentalteam@modalshop.com or 1 513 351 9919.

831C-RT SPECIFICATIONS	
831C-RT Complies with the Following Standards	
ISO 3382-1:2009	Acoustics — Measurement of room acoustic parameters — Part 1: Performance spaces
ISO 3382-2:2008	Acoustics — Measurement of room acoustic parameters — Part 2: Reverberation time in ordinary rooms
ASTM E2235-04	Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods
IEC 61672-1:2002	Class 1 Electroacoustics – Sound level meters
IEC 61260-1:2003	Class 0 Electroacoustics – Octave-band and fractional-octave-band filters
Reverberation Time	
Calculation Methods Available	Impulse excitation using reverse time integration (Schroeder method)
Interrupted Noise Excitation with Internal or External Source	Yes
T20 and T30 Slope Calculation	Least squares estimation
1/1 Octave Band	63Hz to 8 000 Hz
1/3 Octave Band	50 Hz to 10 000 Hz
Selectable Bandwidth	(1/1 or 1/3 octave) and selectable frequency range
Trigger Bandwidth and Level	Selectable
Programmable Exit Time	0 to 99 seconds
Programmable Build Time (Interrupted Noise Method)	0 to 19 seconds
Programmable Acquisition Time	2 to 9 seconds
Sampling Time	2.5, 5, 10, or 20 milliseconds
Reverberation Time Measurement Window	19 s acquisition window, with 20 ms sample time
Measurement State	Exit, background, pretrigger, ready, triggered, done
Decay Viewing	Ensemble and Individual Position Ensemble
Predefined Setups Available	Impulse and interrupted noise methods
Data Viewing Options	Decay exclude and include
Reverberation Time Spectra	T20 and T30
Quality Indicators to ISO 3382-2	
Measured Parameters	Curvature, standard deviation, non-linearity, BT check, and SNR-background
Quality Indicator Options	Ensemble or individual decay
Uncertainty Grade Indicator	Survey, engineering, or precision
On-board Signal Generator	
Noise Generation	Pink or white noise with 0 to 50 dB attenuation in 3 dB steps
Generator Output	2.5 mm jack
Preview Mode	Measurement controlled or manual
Data Management	
Storage of Data on SoundAdvisor™ With or Without Individual Decays	
Data Export to SLM Utility Software, MS Excel, DNA, and Larson Davis SDK	
Sound Level Meter	
Requires No Other Software Option	
Field Upgradable	

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