



SoundPro® SE/DL

HAND HELD SOUND LEVEL METER &
REAL-TIME FREQUENCY ANALYZER

Typical Applications

- Workplace Noise Assessments
- Environmental Noise Assessments
- Administrative & Engineering Controls Selection
- Noise Ordinance Enforcement
- Hearing Protector Selection
- Task-Based Exposure Assessments

The Issue

The marketplace is saturated with sound level meters that provide basic summary noise data such as overall Lmin, Lmax, Leq/Lavg, Peak, Dose, Exposure, TWA and the like. These kinds of summary data can confirm that a noise problem exists but do little to help users trouble-shoot or resolve the problems found. Determining potential and most appropriate methods for correcting excessive noise levels requires a more detailed understanding of the nature of the noise. Unfortunately, obtaining more detailed information historically has meant users must deal with very complex sound measurement instruments and software that are difficult to learn, a challenge to operate confidently and highly prone to operator error. For those that dare venture into the complex world of advanced noise analysis questionable measurement data and unplanned time and expense is often experienced. For the rest of us, keeping things simple may mean choosing to ignore noise problems for fear of the complexities and costs involved.

The Solution

Keeping things simple no longer requires compromises in the completeness of noise analysis information. The new SoundPro SE and DL Series of Hand Held Sound Level Meters and Real-Time Frequency Analyzers in combination with QuestSuite Professional II applications software is specifically designed to greatly simplify the efforts required to reliably perform advanced noise analyses.

The user interface of these meters is patterned after Quest's popular NoisePro® Series Noise Dosimeters, the number one selling brand of noise dosimeter in the world and widely recognized for their ease-of-use. QuestSuite Professional II software and all models in the SoundPro SE & DL Series operate in English, Spanish, German, French, Italian and Portuguese languages. Instrument setup is as simple as a mouse click selection from a library of pre-defined and user-defined application profiles.

High speed USB communications between the SoundPro SE and DL Series meters and your computer allow rapid programming and data transfers. As an added bonus, SoundPro SE and DL Series meter data may be stored on a provided non-proprietary removable SD memory card. The SD memory card data can then be independently transferred to your computer for further analysis without taking the noise meter out of service.

All SoundPro SE and DL Series meters incorporate two virtual sound level meters for simultaneous measurements in accordance with multiple regulatory requirements. Meters equipped with 1/1 and/or 1/3 octave real-time frequency analysis allows users to choose between RTA and broadband measurement modes for one of the virtual sound level meters.

We invite you to read on to fully understand the powerful feature sets contained in the various models within the SoundPro SE and DL Series. With a total of twelve available models, one is certain to match your requirements.



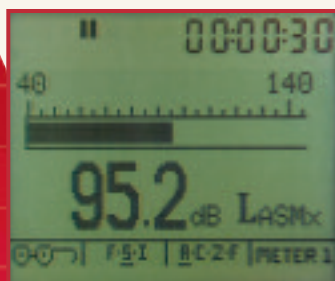
SoundPro SE/DL Series

<i>Common Features</i>	<i>SoundPro SE/DL-2</i>	<i>SoundPro SE/DL-2-1/1</i>	<i>SoundPro SE/DL-2-1/3</i>	<i>SoundPro SE/DL-1</i>	<i>SoundPro SE/DL-1-1/1</i>	<i>SoundPro SE/DL-1-1/3</i>
IEC/ANSI Class 1 SLM Standards				•	•	•
IEC/ANSI Class 2 SLM Standards	•	•	•			
(2) Virtual Integrating Sound Level Meters	•	•	•	•	•	•
Real-Time Frequency Analyzer		•	•		•	•
1/1 Octave RTA		•	•		•	•
1/3 Octave RTA			•			•
Frequency Weighting A, C, Z (Flat)	•	•	•	•	•	•
Time Response F, S, I	•	•	•	•	•	•
Thresholds 10 – 140 dB	•	•	•	•	•	•
Exchange Rates 3, 4, 5, 6 dB	•	•	•	•	•	•
Luminescent Keypad/ Backlit display	•	•	•	•	•	•
SD Card Slot	•	•	•	•	•	•
USB Communications	•	•	•	•	•	•
Programmable & Level Triggered Start/Stop	•	•	•	•	•	•
Unlimited User-Defined/Named Setup Profiles	•	•	•	•	•	•
Multilingual (English, Spanish, German, French, Italian, Portuguese)	•	•	•	•	•	•
<i>Additional SoundPro DL Features</i>						
Time History Datalogging	•	•	•	•	•	•
1s to 60Min Logging Interval	•	•	•	•	•	•

How It Works

Advanced Mechanical Design

Rugged, lightweight and ergonomically appealing instrument body that fits comfortably in the palm of right or left-handed users.

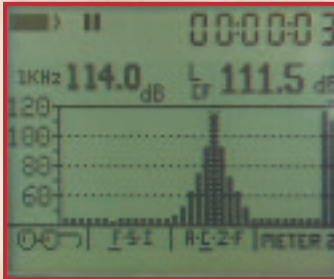
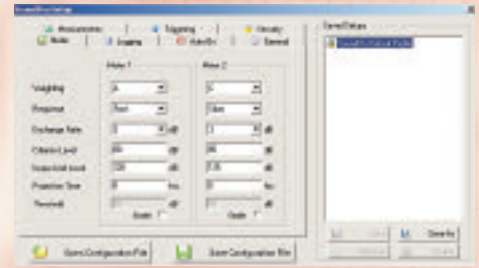


Superior Data Display

Very large backlit 128 x 64 pixel display measuring 6 cm wide by 4.8 cm tall prevents eye strain and makes measurement data clear and easy to understand.

Fast & Simple Setup

Ease of use is achieved through pre-defined and user-defined application setups that are loaded into the SoundPro meters with a single mouse click.

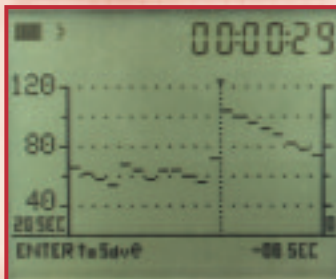
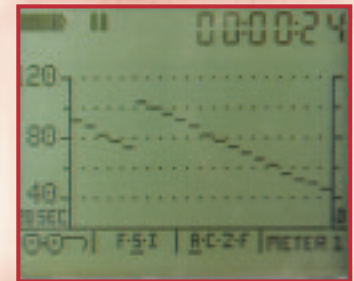


Accurate & Efficient Real-Time Frequency Analysis

Optional RTA mode provides real-time display and storage of the entire set of 1/1 or 1/3 octave spectra simultaneously. No more sequencing through each octave or 1/3 octave one at a time.

Informative Time History Profiles

Optional time history data is displayed graphically in real-time and stored numerically with date and time stamps.



Time Saving Back-Erase Utility Retains Original Data

Avoid starting tests over when noise anomalies occur in the middle of a study. Back-erase up to 20 seconds to remove anomalies from results. Retain original data as well.

What You Need When You Need It

"Soft Keys" simplify operator controls by providing users with direct access to context-sensitive control functions.



Non-Proprietary Removable Data Storage Media

All units include an SD memory card for data storage. Data stored on SD cards appear as a removable hard drive on your PC when inserted into an SD card reader.

Reporting & Exporting is a Snap

What you see is what you get (WYSIWYG) reporting is made possible by a design that allows users to select data panels to be reported and define their sequence as well. Data exporting is as simple as right-clicking on the data panel of interest and choosing the export format.

Ordering Information

PART NUMBER	DESCRIPTION
SP-SE-2	SoundPro SE Class 2 Sound Level Meter with Summary Data Logging Includes Meter with 1/2" Class/Type 2 (QE7052) Electret Microphone and Standard Accessories.
SP-SE-2-1/1	SoundPro SE Class 2 1/1 Octave RTA with Summary Data Logging
SP-SE-2-1/3	SoundPro SE Class 2 1/1 and 1/3 Octave RTA with Summary Data Logging
SP-SE-1	SoundPro SE Class 1 Sound Level Meter with Summary Data Logging
SP-SE-1-1/1	SoundPro SE Class 1 1/1 Octave RTA with Summary Data Logging
SP-SE-1-1/3	SoundPro SE Class 1 1/1 and 1/3 Octave RTA with Summary Data Logging
SP-DL-2	SoundPro DL Class 2 Datalogging Sound Level Meter with Summary Data, Time History & Statistical Data Datalogging Includes Meter with 1/2" Class/Type 2 (QE7052) Electret Microphone and Standard Accessories.
SP-DL-2-1/1	SoundPro DL Class 2 Datalogging 1/1 Octave RTA with Summary Data, Time History & Statistical Data Datalogging
SP-DL-2-1/3	SoundPro DL Class 2 Datalogging 1/1 and 1/3 Octave RTA with Summary Data, Time History & Statistical Data Datalogging
SP-DL-1	SoundPro DL Class 1 Datalogging Sound Level Meter with Summary Data, Time History & Statistical Data Datalogging Includes Meter with 1/2" Class/Type 1 (BK4936) Prepolarized Condenser Microphone and Standard Accessories.
SP-DL-1-1/1	SoundPro DL Class 1 Datalogging 1/1 Octave RTA with Summary Data, Time History & Statistical Data Datalogging
SP-DL-1-1/3	SoundPro DL Class 1 Datalogging 1/1 and 1/3 Octave RTA with Summary Data, Time History & Statistical Data Datalogging
STANDARD ACCESSORIES	
All kits include (4) disposable "AA" alkaline batteries, 56-164 Wrist Strap, WS-7 Windscreen, 56-990 Calibrator Adapter, 53-575 USB Cable, 53-576 User Manual, 17-524 SD Memory Card and 53-711 Carrying Case.	
KITS	
All of the Sound Level Meters above may be purchased in a kit with a Sound Calibrator. For Class 2 kits add a -10 to the end of the Part Number and for Class 1 Kits add a -20 to the end of the Part Number.	
OPTIONAL ACCESSORIES	
SP-OMS	Outdoor Measurement System Conversion Kit for SoundPro series. Includes necessary masts, windscreen, cables, (1) rechargeable battery pack, adapters and water resistant carrying case. Does not include the SoundPro series meter. Order additional 57-242 battery pack separately to increase continuous operating time.
QC-10	Acoustical Field Calibrator w/Single Output (114dB at 1000Hz)
QC-20	Acoustical Field Calibrator w/Selectable Output (114dB or 94dB at 1000Hz or 250Hz)
53-571	AC Power Adapter
53-851	SoundPro 1 Meter Remote Cable Preamp Extension Cable
53-852	SoundPro 3 Meter Remote Cable Preamp Extension Cable
53-853	SoundPro 15 Meter Remote Cable Preamp Extension Cable
53-841	SoundPro QE7052 Standard Class 2 Electret Microphone Kit: Includes 56-317 QE7052 1/2" Microphone, 56-990 Microphone Adapter and WS-7 Windscreen.
53-840	SoundPro BK4936 Standard Class 1 Prepolarized Condenser (electret) Microphone Kit: Includes 59-523 BK4936 1/2" Microphone, 56-990 Microphone Adapter and WS-7 Windscreen.
53-842	SoundPro QE4170 Class 1 One Inch Microphone Kit (for Audiometric and low SPL measurements): Includes 58-488 QE4170 1.0" 200V Pressure Microphone and 58-376 1" Microphone Preamp Adapter.
53-843	SoundPro QE4130 Class 1 Condenser Microphone Kit (Flat to 30 Khz): Includes 58-659 QE4130 1/2" 200V Free Field Microphone, 56-990 Microphone Adapter and WS-7 Windscreen.
53-844	SoundPro QE4110 Class 1 (1/4") Microphone Kit (High SPL measurements 57dB(A) - 167dB(A)): Includes 59-413 QE4110 1/4" 200V Free Field Microphone with adapter, 56-988 Microphone Adapter and WS-7 Windscreen.
59-703	BNC 18PF Preamp Input Adapter Used by calibration labs, for electrical input (Recommended Model).
53-372	BNC Direct Couple Preamp in Adapter (Alternate Model)
53-870	Auto DC Jack Cable for SoundPro 12 VDC, Car Plug style charger cable
53-882	AC/DC Cable for SoundPro Used by calibration labs. Provides AC/DC Out.
59-045	TP-1 Tripod
SUPPORT SOFTWARE	
57-860	QuestSuite Professional II - Single User License Includes one CD and one user authorization code for installation of QuestSuite Professional II to support one office and one portable PC installation within the same company site.
57-862	QuestSuite Professional II - Multi User License - Includes one CD and (1) user authorization code for installation of QuestSuite Professional II to support a total of (10) concurrent network users or (10) stand-alone users or any combination of the two within the same company.
57-864	QuestSuite Professional II - Unlimited User License - Includes one CD and (1) user authorization code for installation of QuestSuite Professional II to support an unlimited number of concurrent network users or stand-alone users or any combination of the two within the same company.

Technical Specifications

STANDARD AND APPROVALS	
Acoustics:	EN/IEC 61672, ANSI S1.4-1983, ANSI S1.43-1997 EN/IEC61260, ANSI S1.11-2004, (Also fulfills all requirements of IEC 60651 and IEC 60804)
European:	EMC: Pending testing on production products.
GENERAL	
Key Pad:	14 pushbuttons
Display Type:	Transflective 128 x 64 dot matrix
Backlighting:	Fiber-optic
Languages:	English, Spanish, German, French, Italian, Portuguese
MEASUREMENTS	
Available Measurements:	SPL, MAX, MIN, Peak, Ln, Leq, Lavg, Sel, TWA, Taktm, DOSE,PDOSE, Ldn, CNEL, Exposure
Ranges:	<p>Frequency: Class 1: 3Hz – 22.4 kHz; Class 2: 20Hz – 8Khz; Filters: 1/1 octave (Optional); 1/3 octave (optional)</p> <p>Amplitude: SLM: (8) selectable 90 dB Dynamic Ranges . RTA: (8) selectable 80 dB Dynamic Ranges.</p> <p>Maximum PEAK Level: 3dB above full scale reading</p>
Parameters:	<p>Weighting: A, C, Z, (Flat)</p> <p>Response Time: Fast, Slow, Impulse</p> <p>Octave Band Filters (Optional): Class 1, ANSI S1.11-2004, EN/IEC61260</p> <p>Class/Type 1: Center Frequencies: (1/3 Mode) 33 center frequencies from 12.5 Hz to 20 kHz. (1/1 Mode) 11 center frequencies from 16 Hz to 16kHz</p> <p>Threshold: 0 – 140dB</p> <p>Exchange Rates: 3,4,5,6dB</p>
Run Modes:	Level triggered Run/Pause, Clock/Date triggered power on and Run for programmed duration, External logic input Run/Pause, Keypad initiated Run/Pause for programmed duration.
References:	<p>SPL: 114 dB</p> <p>Frequency: 1 kHz</p> <p>Direction: 0 degrees using a Free Field response microphone.</p>
CALIBRATION	
	Calibration history is maintained and post study verification logged with calibration history
Calibrators:	QC-10 (114 dB, 1 kHz), QC-20 (94 dB, 114 dB, 250 Hz, 1 kHz)
DATALOGGING OPTION	
	Requires SD Card
Summary Data and Time History Data Logged:	MAX, MIN, Peak, Ln, Leq/ Lavg
Exceedence Level Data Logged:	2 user selectable Ln levels
Memory Capacity:	Size of installed SD memory card
Intervals:	1sec, 10sec, 15sec, 30sec, 60sec, 5min, 10min, 15min, 30min, 60min
SPECIAL FUNCTIONS	
Back-Erase:	Selectable 1 sec to 20 seconds.
Storage System:	Removable secure digital memory card (SD-Card). Required to store multiple session/studies, setup storage, and for the datalogging option. File formats are PC compatible binary files. QuestSuite is required to interpret data files.
PORTS AND CONNECTIONS	
Secure digital (SD) card:	Used for datalogging, storing setups, and storing session/studies.
Power Jack:	External power supply 9-16 Vdc
AC/DC output:	3.5MM stereo (tip AC, Ring 1 DC, Ring 2 Gnd)
10 pin auxiliary connector :	RS-232, 3 digital outputs, 1 digital input
USB :	Conforms to USB 2.0, Mini B connector

Technical Specifications (cont'd)

ENVIRONMENTAL CHARACTERISTICS	
Temperature: Operating: Storage: Humidity: Shock & Vibration: External Fields:	($\pm 0.5\text{dB}$ effect) - 10°C to + 50°C -25°C to + 70°C TBD Magnetic: 80 A/m, 50/60 Hz, no effect Electric: 10 V/m, 1 kHz modulated, 30 MHz – 1 GHz, <math>< 55\text{ dBC}</math>
ELECTRICAL CHARACTERISTICS	
Batteries:	(4) disposable AA Alkalines: 10 hours minimum continuous use depending on configuration/options. Excludes use of backlight.
External DC Power Input:	Voltage: 9 – 16 VDC
External DC Power Supply:	Input: 90 – 264VAC 50/60Hz Output: 9 VDC
Microphones:	Type/Class 2: QE7052 Type/Class 1: BK4936 (Standard)
Meter Input:	50 Kohm nominal input impedance
Preamplifier:	Directly accepts 1/2 in. (0.52" or 13.2 mm) microphone. Other sizes require an adapter
Pre-Amp Assembly:	Preamp is removable
Cable:	Will drive up to 30 meters of cable with negligible signal loss
Input Impedance:	Greater than 1Gohm with 1pf loading
Signal Limit:	11VAC
MECHANICAL CHARACTERISTICS	
Tripod Mount:	A threaded insert on back of the meter accepts a standard 1/4" – 20 tripod mounting screw
Housing:	Stainless fiber filled ABS/Polycarbonate with internal EMC shielding
Size:	3.1" W x 11.1" H (w/preamp no microphone) x 1.6" Thick
Weight:	0.54Kg or 1.2 lbs (including batteries)

Specifications subject to change without notice. For the most current specifications and additional information about Quest Technologies visit our web site at www.Quest-Technologies.com.



WORLDWIDE HEADQUARTERS

1060 Corporate Center Drive • Oconomowoc, Wisconsin 53066 USA

262-567-9157 • 800-245-0779 • Fax: 262-567-4047

www.Quest-Technologies.com