

SoundPro™ SE / DL SERIES



800.245.0779 - 1.262.567.9157 WWW.QUESTTECHNOLOGIES.COM



HAND HELD INTEGRATING SOUND LEVEL METERS
REAL-TIME FREQUENCY ANALYZERS

Since 1969

The SoundPro SE/DL series of sound level meters represent latest technology development and innovative features in a simple to use instrument that is ideal for:

Occupational Noise Evaluations, Hearing Protector Selection Measurements, Environmental Noise Assessments, Noise Ordinance Enforcement and Legal Metrology, General Sound and Frequency Analysis Measurements.



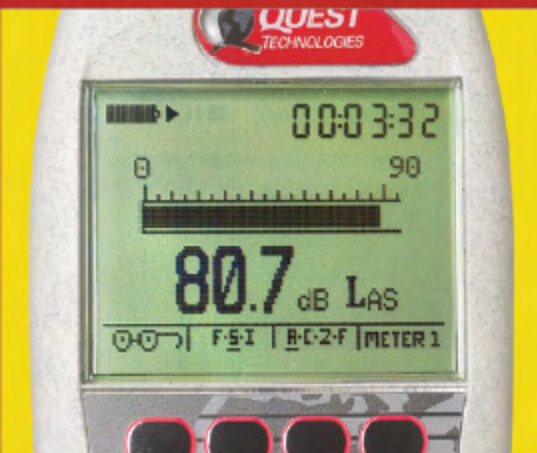
Typical User Applications include documentation of workplace noise by exposure data and real-time frequency analysis in 1/1 and 1/3 octave bands. This documentation is used to ensure regulatory compliance and provide the foundation data for hearing conservation programs. Other common applications include general environmental measurements, vehicle noise evaluations, quality control and process measurements, building acoustics, and military noise studies including heavy weapons, warfighter exposures, shipboard measurements, and mobile equipment evaluations.

Key Features of the SoundPro SE/DL series include:

- 1) Precision Class 1 and General Purpose Class 2 Models
- 2) Full compliance with latest U.S. and international standards
- 3) Proven friendly menu driven user interface
- 4) High Speed Digital Signal Processor with fast data transfer rate
- 5) Removable SD Memory Card for file storage
- 6) Powerful feature sets and options such as Acoustic Spectral Curves and Speech Intelligibility functions

Features Common to All SoundPro SE/DL Models:

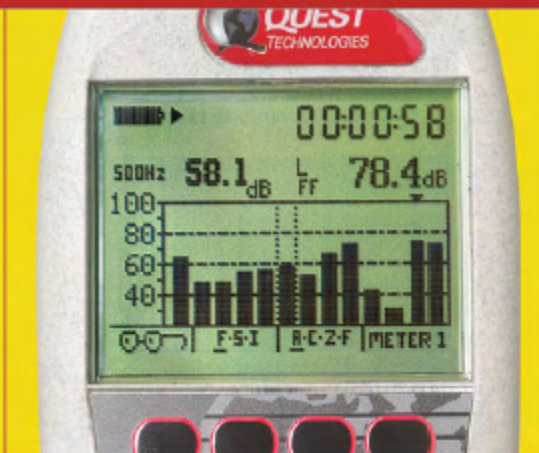
- ANSI & IEC Standards Compliant
- Available in Class 1 Precision or Class 2 Models
- Two "virtual" Sound Level Meters Running Simultaneously
- Concurrent A-weighted and C-Weighted Measurements
- Programmable & Level Triggered Start and Stop
- A, C, and Z (Flat) Frequency Weighting
- Fast, Slow, and IEC Impulse Time Response
- Selectable Thresholds 10 dB – 140 dB
- 3, 4, 5, 6 dB Exchange Rates
- Luminescent Keypad and Backlit Display
- SD Memory Card Slot
- USB Communications Port & Serial RS-232 Output
- Multilingual Display (English, German, Spanish, French, Italian, & Portuguese)
- Time History Data Logging with 1 second to 60 minute intervals
- Back Erase Function
- Noise Dose Calculation / Dosimetry Function



SPL DISPLAY
Quasi-Analogue and Numerical

Analogue Display View

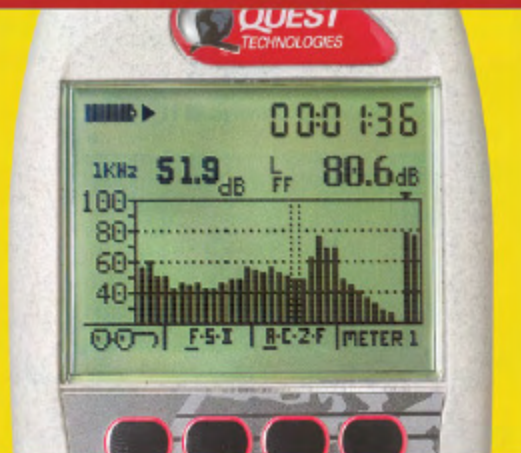
Displays the current Sound Pressure Level (SPL) with selected time response and filter weightings. The amplitude of the displayed measurement is shown both graphically by the length of the bar and numerically below the bar. The bar appears if the measured value is above the minimum value for the selected measurement range.



1/1 OCTAVE
Band Bar Chart Measurement Screen

Broadband Bar Chart View

Displays 1/1 octave analysis measurements in filter band and broadband values for both meters 1 and 2. This screen contains 13 bars with 11 filter bands and 2 for broadband. Bars appear if the value for the measurement is above the minimum value for the selected range.



1/3 OCTAVE
Band Bar Chart Measurement Screen

Broadband Bar Chart View

Displays 1/3 octave-band analysis measurements in filter band and broadband values for both meters 1 and 2. This screen contains 35 bars with 33 filter bands and 2 for broadband. Bars appear if the value for the bar is above the minimum value for the selected measurement range.

Optional Features and Expanded Capabilities:

- Full (1/1) Octave Band Real-Time Analysis
- Third (1/3) Octave Band Real-Time Analysis
- Acoustic Spectral Curves Option
- Speech Intelligibility Option
- Outdoor Weatherproof Measuring System Option
- Audiometric Calibration Kit Configurations
- GPS Data Incorporation (Using compatible GPS Receiver)
- Optional Microphones in 1/4", 1/2", and 1" sizes





SoundPro *Outdoor Measuring System (OMS)*

The SoundPro Outdoor Measuring System is a tool used to protect your instrumentation from exposure to wind, rain, snow, chemicals, particulates, animals, tampering, vandalism and theft. It is also used for extended battery life with up to one week of continuous monitoring (two weeks with optional second battery). The weatherproof case holds the meter and battery pack with room for accessories and storage of the system components while not in use.

Exposed components are made of stainless steel, ABS and engineered polymers. The kit contains all necessary masts, windscreens, cables, battery packs and adapters required for use with the SoundPro SE and DL instruments. Provisions exist in the case design to allow customer-supplied padlocks and cables to be used to lock the case and secure it to a stationary object.





SPECIFICATIONS FOR THE SOUNDPRO SE/DL

▶ GENERAL

DISPLAY LANGUAGES:	English, Spanish, French, German, Italian, Portuguese
USER INTERFACE:	10 Pushbuttons and 4 Soft keys, Menu Driven
DISPLAY TYPE:	Transflective 128 X 64 Dot Matrix LCD with additional fiber optic backlighting

▶ STANDARDS

EN/IEC 61672, ANSI S1.4, ANSI S1.43, EN/IEC 61260, ANSI S1.11, CISPR 16-1, IEC 6100-4-2, IEC 6100-6-2 (also meets requirements of former standards IEC 60651 and 60804)
CE Marked

▶ MEASUREMENTS

PARAMETERS:	SPL, LMAX, LMIN, Peak, LEQ, LAVG, SEL, LN (selectable L1 to L99), TWA, Taktm, Dose, PDose, Exposure (PA2H), LDN, CNEL
RANGES:	120 dB+ (A-weighted) total dynamic measurement range over 8 individual ranges of 90 dB (A-weighted) each (with filters - 80 dB ranges); Overall measurement range 0 dB to 140 dB
PEAK RANGE:	Up to 143 dB using standard BK4936 microphone; higher with optional microphones and preamps
FREQUENCY WEIGHTING:	A, C, Z and F (Flat)
RESPONSE TIME:	Fast, Slow, IEC Impulse
EXCHANGE RATES:	3, 4, 5, and 6 dB
CRITERION LEVEL:	40 to 100 dB
UPPER LIMIT TIME LOGGING:	10 to 140 dB selectable
RUN MODES:	Level Triggered Run/Pause, Clock/Date Triggered Power On and Run for Programmed Duration, External Logic Input Run/Pause, and Keypad initiated Run/Pause for Programmed Duration
MEASUREMENT REFERENCES:	SPL: 114 dB Frequency: 1 kHz Direction: 0 Degrees using free field response microphone

▶ OCTAVE AND THIRD OCTAVE FILTERS (OPTIONAL)

FULL OCTAVE FILTERS:	11 bands with center frequencies from 16 Hz to 16 kHz
THIRD OCTAVE FILTERS:	33 bands with center frequencies from 12.5 Hz to 20 kHz

▶ CALIBRATION

HISTORY:	Complete Calibration History with post study verification logged with calibration history
-----------------	---

▶ DATALOGGING OPTION

DL MODELS:	Include standard removable secure digital (SD) memory card. This card is required to store multiple sessions/studies and for setup storage. QuestSuite® Professional II required to interpret data files.
SUMMARY DATA & TIME HISTORY DATA LOGGED:	Max, Min, Peak, LN, LEQ (LAVG if using 5 dB exchange rate)
LOGGING INTERVALS:	User selectable from among 11 settings ranging from 1 second to 60 minutes
MEMORY:	Accepts 128 mb to 2 GB SD Memory Cards

▶ SPECIAL FUNCTIONS

BACK ERASE:	Selectable 1 second to 20 seconds removal of measurement data (data removed by back erasing retained in session file)
SECURITY:	4 digit code protection for Runs and Setups available
OPTIONAL ACOUSTIC SPECTRAL CURVES:	Noise Criterion (NC) Curves, Preferred Noise Criterion (PNC) Curves, Room Criterion (RC) Curves, Balanced Noise Criterion (NCB) Curves, Noise Rating (NR) Curves, Audiometric Room Curves (per ANSI S3.1), and Audiometric Room Curves (per OSHA Hearing Conservation Amendment)
OPTIONAL SPEECH INTELLIGIBILITY FUNCTION:	Firmware can be installed in the SoundPro® series to allow the testing and evaluation of intelligibility of human speech, particularly through public address (PA), fire alarm and mass notification systems (MNS) based on the Speech Transmission Index (STI) and the STI-PA method in accordance with IEC 60268-16 and NFPA 72 National Fire Alarm Code

*Specifications continued on next page



SPECIFICATIONS FOR THE SOUNDPRO SE/DL (CONTINUED)

PORTS AND CONNECTIONS

POWER JACK:	External power supply 9-16 VDC
AC/DC OUTPUT:	3.5 mm stereo (tip-AC, Ring-DC, Ring2-Ground)
10 PIN AUXILIARY CONNECTOR:	RS-232, 3 digital outputs, 1 digital input
USB:	Conforms to USB 2.0, Mini B Connector

ELECTRICAL CHARACTERISTICS

BATTERIES:	4 disposable AA Alkaline Cells, typically >10 hours continuous use without backlight (SLM only without filters activated); Optional Nickel Metal Hydride (NiMH) Cells, typically 10+ hours (SLM only)
EXTERNAL DC POWER INPUT:	100 – 240 VAC, 47-63 Hz transformed to 9 VDC
STANDARD MICROPHONES:	Class/Type 1 Precision – BK4936; Class/Type 2 General Purpose – QE7052; other optional types and sizes available from 1/4" to 1" prepolarized or standard condenser types
MICROPHONE POLARIZATION:	Selectable 0 volts or 200 volts
MICROPHONE SENSITIVITY:	Selectable nominal values in decibels relevant to 1 Volt/Pa
METER INPUT:	50 KOhm nominal input impedance
PREAMPLIFIER:	Removable Preamp directly accepts 1/2" (0.52" or 13.2 mm) microphone; other sizes require adapter
REMOTE CABLE:	Will drive up to 15 meters of cable with negligible signal loss
INPUT IMPEDANCE:	20 kΩ in series with 11 μF capacitance, with 100 pF capacitance to ground

PHYSICAL CHARACTERISTICS

SIZE:	3.1"W X 11.1"H X 1.6" thick (with preamp & microphone); 7.9 cm X 28.2 cm X 4.1 cm
WEIGHT:	0.54 kg or 1.2 lbs. (including batteries)
HOUSING:	Stainless fiber filled ABS Polycarbonate with additional internal EM/RFI shielding
TRIPOD MOUNT:	Standard photographic mount on rear accepts 1/4" - 20 screw threads

ENVIRONMENTAL

TEMPERATURE:	Operating -10° to + 50° C. (<± 0.5 dB effect); Storage -25° C to + 70° C
HUMIDITY:	10% to 90% RH, non-condensing
EXTERNAL FIELDS:	Electric – 10 V/meter, 1 kHz modulated, 30 MHz – 1 GHz, <55 dBc; Magnetic – 80 A/m, 50/60 Hz, no significant effect

*All Specifications Subject to Change



The System Solution Software



QuestSuite Professional II Software provides the ultimate "System Solution" for recording, reporting, charting and analyzing exposures to a variety of occupational and environmental hazards. With QuestSuite, there are no more headaches of learning different programs or switching between multiple software applications. Just one simple, yet robust system solution for all of our rugged Quest instruments.

FOR SPECIFIC ORDERING INFORMATION AND OTHER PRODUCT SPECIFICATIONS, VISIT US ON THE WEB AT QUESTTECHNOLOGIES.COM



Worldwide Headquarters - 1060 Corporate Center Drive - Oconomowoc, Wisconsin 53066 USA

262.567.9157 - 800.245.0779 - www.questtechnologies.com



ISO 9001:2000 Registered Company
ISO 17025 Accredited Calibration Lab
098-585 Rev. C 06/08

Since 1969