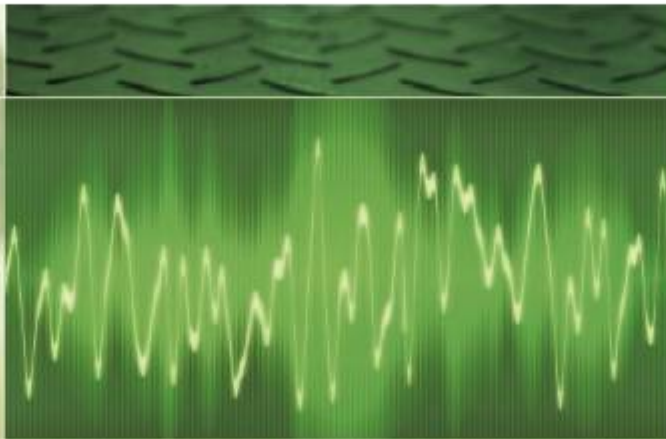


SoundPro™ SE/DL Training Module

QUEST
TECHNOLOGIES
now part of 3M



Advanced Sound Level Monitoring





- What – is a SoundPro SE/DL Sound level meter?
- When and Why – will I use the SoundPro SE/DL?
- How – is the SoundPro SE/DL operated?
- What – advanced features are available ?
- Where can I find out more?



What is the SoundPro SE/DL?



- The SoundPro SE/DL is a high end technically advanced **Real-Time Integrating** sound level meter available in Class 1 and Class 2 models.
- It's arrow dynamic shape causes minimal disturbance to sound fields being measured.
- It's large graphical display allows easy instantaneous measurements.
- Data is stored on a Secure Digital memory card for post processing and analysis.

SoundPro SE/DL Components

Major components include:

- *Microphone*
- *Preamplifier*
- *Graphics display*
- *Membrane keypad*
- *"AA" battery compartment*
- *Bottom connection panel*



Product Feature Guide



SOUNDPRO FEATURES:	SE2	SE2 1/1	SE2 1/3	DL2	DL2 1/1	DL2 1/3	SE1	SE1 1/1	SE1 1/3	DL1	DL1 1/1	DL1 1/3
IEC/ANSI Class 1 SLM Standards						
IEC/ANSI Class 2 SLM Standards						
Two Integrating Sound Level Meters
Real-Time Frequency Analyzer	
1/1 Octave Spectra (16Hz to 16kHz)	
1/3 Octave Spectra (12.5Hz to 20kHz)		
Frequency Weightings A, C, Z,
Time Response F,S,I
Integration 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
Back-Erase
Datalogging			
1s to 60min Logging Interval			



Basic SLM Measurements

SPL (L_{AS}) 'A' weighted Slow Sound Pressure Level

Max (L_{ASMax}) Maximum SPL the instrument measured during test

Min (L_{ASMin}) Minimum SPL the instrument measured during test

Leq (L_{ASeq}) Average 'A' weighted Slow SPL during the sample period



3M Occupational Health & Environmental Safety Division
SoundPro Applications



- Industrial noise sampling
- Task based sampling
- Hearing protection evaluation (C-A available)
- Noise Control
- Community and traffic noise complaints
- Misc. laboratory tests

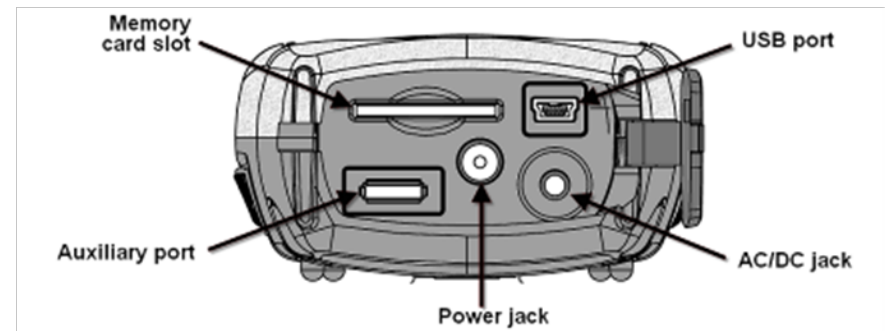


How to run Simple SoundPro Survey

1. Verify the Secure Digital card is in place.
2. Turn the SoundPro on.
3. Verify that the meter setup is as desired.
4. Put the meter through the calibration procedure.
5. Select the desired mode (SLM, 1/1, 1/3, STIPA).
6. Set measuring range appropriately.
7. Press Run/Pause to collect data.

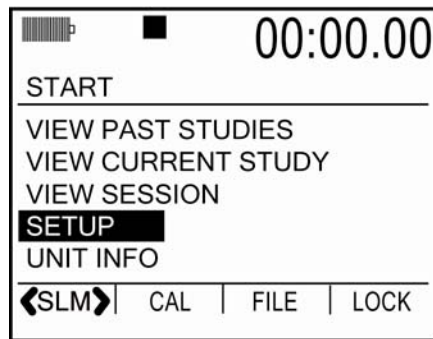
1. Check Memory Card

- a) Open the bottom cover and verify that the Secure Digital card is installed in the Memory card slot.
- b) Check to see that the pre-amplifier and microphone are screwed securely to the meter.
- c) The unit is ready.



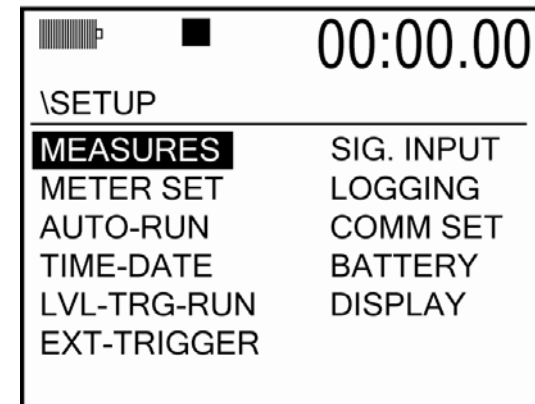
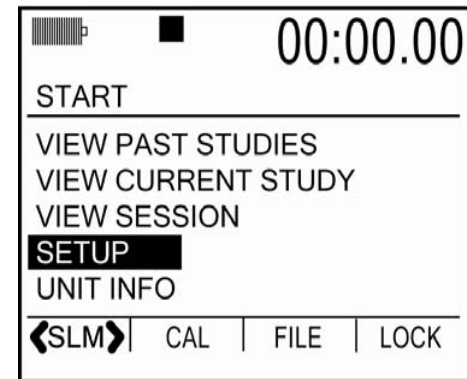
2. Turn SoundPro On

- a) Simply press and hold the On/Off/Esc button for about 1 second to turn on the instrument.
- b) The meter will respond by displaying the Start screen.



3. Verify Measurement Setup

- a) From the start screen highlight **SETUP** and press enter.
- b) From SETUP highlight **MEASURES** and press enter.



Verify Setup Continued



- c) Go through the menu and make any changes needed. See glossary for details.
- d) Set measuring time constant (F,S,I).
- e) Set measuring filtering (A,C,Z,F)
- f) Repeat for meter 2.

\setup\METER SET 1	
THRESHOLD	OFF
EXCHANGE RATE	03 dB
CRITERION LEVEL	90 dB
UPPER LIMIT	115 dB
PROJECTED TIME	08 Hr
F·S·I	A·C·Z·F METER 1



4. SoundPro Calibration

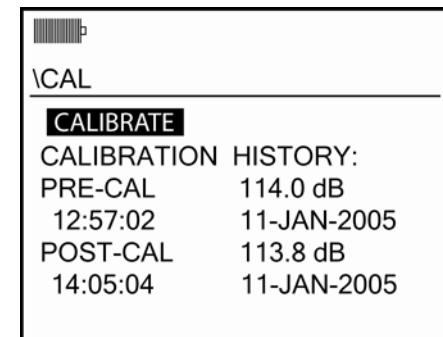
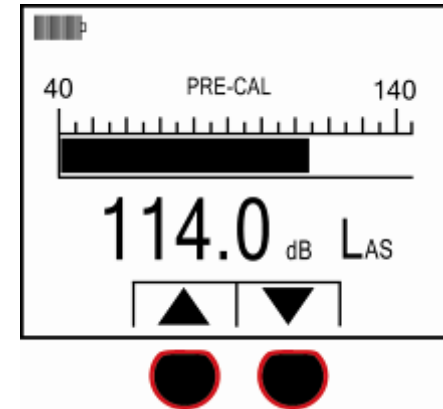
- a) Turn the calibrator on. Make sure you can hear the tone.
- b) Place the calibrator with adapter on the SoundPro meter.
- c) Press the Cal soft key in the start screen.
- d) Verify the battery is good in Cal screen.
- e) Press enter to begin adjustment.



■■■■■	
\CAL	
CALIBRATE	
CALIBRATION HISTORY:	
PRE-CAL	114.0 dB
12:57:02	11-JAN-2005
POST-CAL	113.8 dB
14:05:04	11-JAN-2005

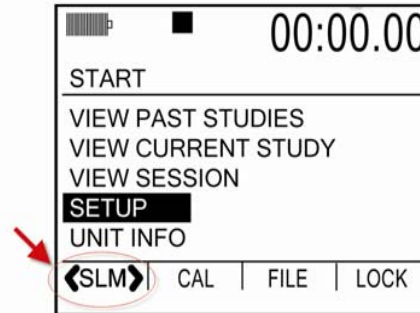
Calibration Continued

- f) Adjust meter reading to match your calibrator. Usually 114.0 dB.
- g) After adjustment press the **Enter** key. The display will now show the last calibration.
- h) You are now ready to begin a sound survey.



5. Selecting Measurement Mode

a) The Measurement mode is selected from the start screen. It is selected by pressing the soft key in the upper left hand corner of the keypad.



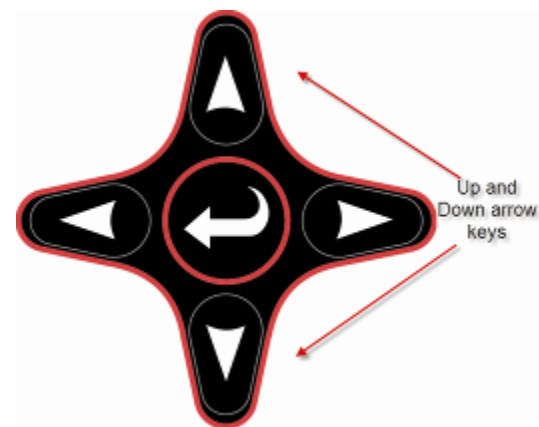
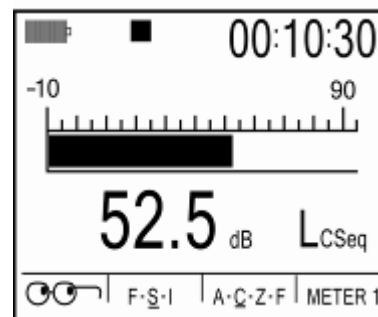
b) The Measurement mode must be selected when the meter is **Stopped** not paused or running.

c) The SLM mode is selected in this example.



6. Setting Measurement Range

- a) For the most accurate results the sound source being measured should fall in the upper half of the meter range.
- b) This is indicated by the bar graph on the display.
- c) Range is selected in 10 db steps using the up and down arrow keys.



7. Running the Meter

- a) Simply point the microphone at the source of sound to be measured.
- b) Press the Run/Pause key until you see the Run enunciator in the display.
- c) Press the Run/Pause key again to Pause the survey.
- d) Press and hold the Stop key for a 3 second count down to save the file for review.

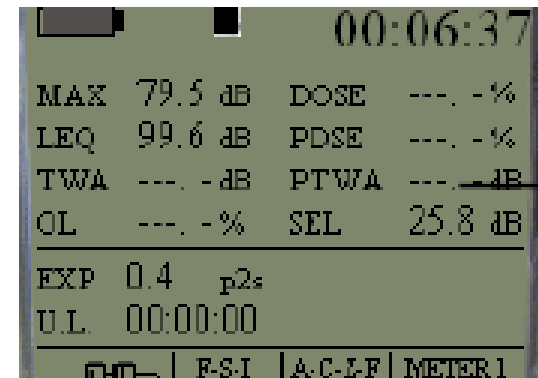


Available Survey Results



Various results that are available to the user.

- *Standard SPL display*
- *Dosimeter measurements*



More Available Results

Showing different results screen is done with a simple press of the enter key.

- *Community noise levels*
- *1/3 Octave results in tabular form*

00:06:37	
L10 77.9 dB	L10 77.9 dB
L50 76.4 dB	L90 53.5 dB
LDN ---, -dB	CNEL ---, -dB
OL ---, -%	TK ---, -dB
Lc-a ---, -dB	
F-S-I A-C-Z-F METER 1	

00:06:37			
1	LAS pk	103.4	40Hz 83.8
M	12.5Hz	98.2	50Hz 79.6
E	16Hz	96.2	63Hz 84.8
T	20Hz	96.2	80Hz 82.7
E	25Hz	84.8	100Hz 77.5
R	31.5Hz	87.9	125Hz 75.5
F-S-I A-C-Z-F METER 1			

Advanced Features

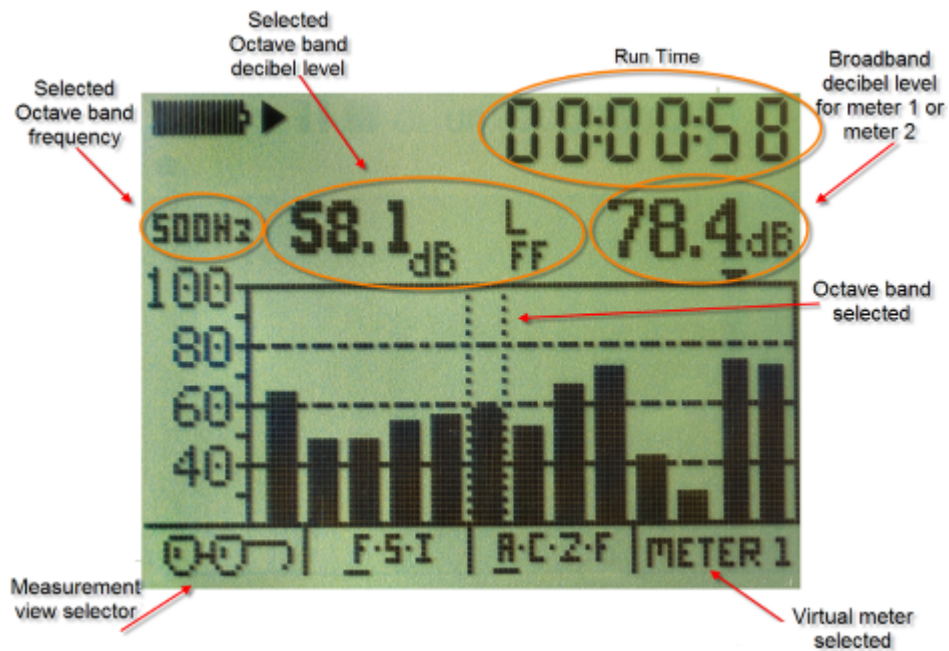
One or more of the following advanced features may be installed into the SoundPro meter.

- *1/1 Octave Filter*
- *1/3 Octave Filter*
- *Curves*
- *Speech Intelligibility*
- *Reverberation Time (coming soon)*



1/1 Octave Filter Feature

- The 1/1 octave feature allows the user to display and log the sound measured in 11 discrete octave bands from 16Hz to 16KHz.
- Here are some of the key features on the main measurement screen.



1/3 Octave Filter Feature

- The 1/3 octave feature allows the user to display and log the sound measured in 33 discrete 1/3 octave bands from 12.5Hz to 20KHz.
- Shown here is the main measurement screen of the 1/3 octave filter feature.



Curves Feature

- The Curves feature allows the user to compare measurements to a large set of pre loaded curves or stored data.
- This feature is a valuable tool for machine noise, room acoustics, and sound booths.



Speech Intelligibility Feature



- This feature allows the user to test mass notification systems per the guidelines of the NFPA 72 code.
- A test tone and player are required to complete the system.



Troubleshooting

My SoundPro won't turn on, what should I do?

- a) Replace the batteries.
- b) If it still doesn't come on try it with the external power supply.
- c) If you are still unsuccessful, the meter will have to be returned to the service center nearest you.

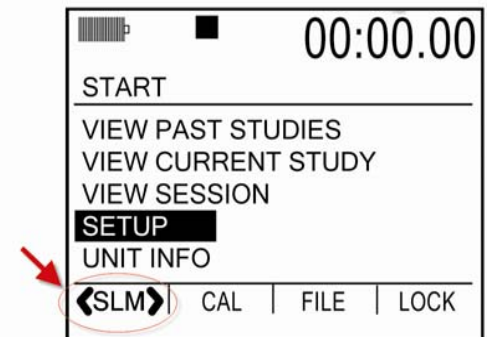


Troubleshooting

My SoundPro is suppose to do octaves but all I see is a basic SLM. How do I access the octaves?



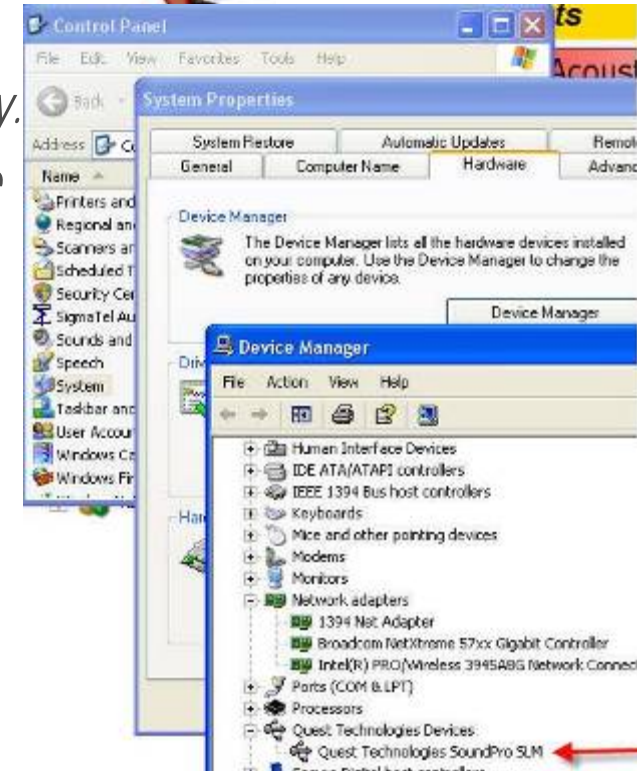
- a) *In the Start Screen, press the soft key in the upper left until you see the mode you are interested in. The modes include; SLM, 1/1, 1/3, STIPA.*



Troubleshooting

My SoundPro does not download to QSP. What can I do?

- a) *Make sure the meter is set in the QSP/Serial mode. Check this in Setup and then Comm Set.*
- b) *Verify that the USB driver is installed on you PC correctly.*
 1. *Check in "Control Panel/ System/Hardware/Device Manager/Quest Technologies Devices"*



For more information on the SoundPro Series of meters



- Product Brochure
- Product Manual
- Glossary of Terms
- Frequently Asked Questions