

# Sound Level Pen

**840018**

Instruction Manual

SPER  
SCIENTIFIC

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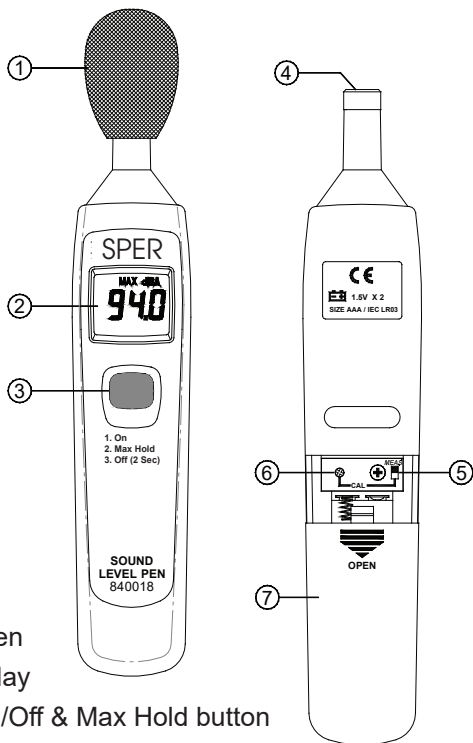
Environmental Measurement Instruments

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## INTRODUCTION

Perfect for testing for OSHA requirements, your new instrument measures the 30 to 130 dB range in the “A” scale, simulating the human ear response. Features a built-in calibration adjustment, fast response time, mini size, a resolution of 0.1 dB, Max Hold, and a low battery indicator. Designed to meet the measurement requirements of safety engineers, health, industrial safety offices and sound quality control in various environments. Comes with instructions, wind-screen, calibration tool, and two 1.5V batteries. CE compliant.



1. Windscreen
2. LCD Display
3. Power On/Off & Max Hold button
4. Microphone
5. Measurement Slide Switch
6. Calibration (CAL) VR
7. Battery Cover

# OPERATING INSTRUCTIONS

## Precautions and Maintenance

- Do not store or operate the instrument at high temperatures or humidity.
- Keep the microphone dry and avoid severe shock or vibration.
- Wind blowing across the microphone can cause measurement errors, these effects are reduced by using the windscreen.
- Remove the batteries if the unit is not in use for a long period of time.
- Wipe the case with a dry cloth. Do not use abrasives or solvents

## Calibration

Calibrate the meter before first use or when the reading appears inaccurate.

If you require a certificate of calibration traceable to NIST, the unit may be sent to Sper Scientific for servicing (fee applies).

### There are two methods of calibration:

#### 1. Internal Electrical Calibration

- With the unit on, lightly press the **Battery Cover** to slide it down and off.
- Move the **Measurement Slide Switch** down. This activates the built-in oscillator (94 dB 1 kHz, sine wave) for electrical calibration of the unit.

- The LCD displays “CAL” for about 1 second. As needed, use a screwdriver to adjust the Calibration (CAL) screw until “94.0dB” is displayed.
  - This ends the calibration. Make sure that the Measurement Slide Switch is returned to the “MEAS” (up) position and the Battery Cover is reattached.
2. Acoustic calibration using a standard sound calibrator such as Sper Scientific’s 850016.
    - With the Measurement Slide Switch in the “MEAS” (up) position, place the microphone in the calibrator.
    - As needed, use the calibration tool to adjust the Calibration (CAL) VR until “94.0dB” is displayed.

## Measurement

1. Press the Power / Max Hold button to turn the meter on.
2. Point the Microphone at the noise source.
3. The LCD displays the measured sound level. Readings are updated twice every second.
  - “OVER” is displayed when the sound level is above 130dB.
  - “UNDER” is displayed when the sound level is below 30dB.
4. During the measurement procedure, press the **Power/ Max Hold** button to freeze the measurement. “MAX” and the measurement are displayed. When the frozen sound level measurement is exceeded, the new maximum measurement will be displayed. Press the **Power/Max Hold** button again to exit this function.
5. To turn the unit off, press and hold the **Power/Max Hold** button for 2 seconds.

## **Battery Replacement**

Replace the battery when the low battery icon is displayed. Press the Battery Cover to slide it down and off. Insert two 1.5V batteries, paying attention to the polarity as indicated in the compartment. Reattach the cover.

## **Optional Accessories**

850016 - Acoustical Calibrator

840091 - Wind Screen Replacement

## SPECIFICATIONS

Range	30 dB to 130 dB
Resolution	0.1 dB
Accuracy	±1.5 dB (under reference conditions, 94 dB @1 kHz )
Frequency	31.5 Hz to 8 KHz in the "A" weighting.
Time Weighting	FAST
Operating Temperature	32 to 104°F (0 to 40°C)
Operating Humidity	10 to 90% RH
Storage Temperature	14 to 140°F (-10 to 60°C)
Storage Humidity	10 to 75% RH
Display Update	0.5 seconds
Microphone	1/2" electret condenser microphone
Dimensions	8.1" L × 1.7" W × 1.0" H 206 × 42 × 25 mm
Weight	0.22 lbs, 100 g with batteries
Battery Life	Approx. 20 hours Alkaline

## **WARRANTY**

Sper Scientific warrants this product against defects in materials and workmanship for a period of **five (5) years** from the date of purchase, and agrees to repair or replace any defective unit without charge. If your model has since been discontinued, an equivalent Sper Scientific product will be substituted if available. This warranty does not cover probes, batteries, battery leakage, or damage resulting from accident, tampering, misuse, or abuse of the product. Opening the meter to expose its electronics will void the warranty.

To obtain warranty service, ship the unit postage prepaid to:

**SPER SCIENTIFIC LTD.**  
8281 E. Evans Rd., Suite 103  
Scottsdale, AZ 85260

The defective unit must be accompanied by a description of the problem and your return address. Register your product online at [www.sperwarranty.com](http://www.sperwarranty.com) within 10 days of purchase.