

Mini Sound Meter

850014

Instruction Manual

SPER
SCIENTIFIC

Environmental Measurement Instruments

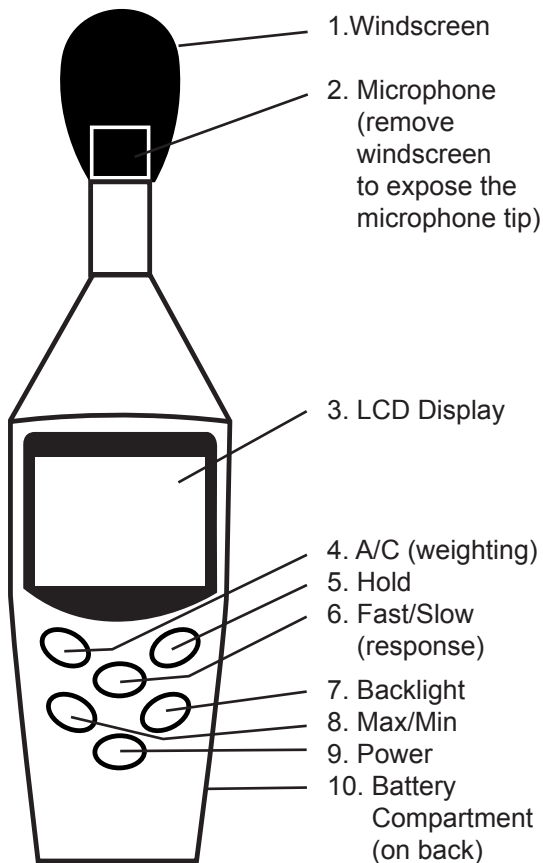
TABLE OF CONTENTS

1. INTRODUCTION	2
2. PANEL DESCRIPTION	3
3. OPERATING INSTRUCTIONS	4
3-A. Measuring Procedures	4
3-B. Hold Function	5
3-C. Min/Max Function	5
3-D. Calibration	6
4. AUTO POWER OFF	6
5. SPECIFICATIONS	7
6. OPTIONAL ACCESSORIES	8
7. WARRANTY	8

1. INTRODUCTION

This lightweight and compact unit features 1/2" Electret condenser microphone, A and C decibel frequency weighting scales, fast or slow response time weightings, max/min, hold and a backlight. Reference to IEC651 and ANSI S1.4 standards for a type 2 sound meter. Includes a windscreen, instructions, and a 9V battery. CE rated.

2. PANEL DESCRIPTION



3. OPERATING INSTRUCTIONS

Keep the microphone dry and avoid strong vibrations. Use the **WINDSCREEN** (1) at wind speeds over 10m/sec.

3-A. MEASURING PROCEDURE

- Turn the meter on by pressing the **POWER** (9) button. The meter defaults to the A frequency and FAST response.
- Press the **A/C** (4) button to toggle between frequency scales. The A scale is shown as “dBA” and the C scale is shown as “dBC”. Select the A scale to simulate the human ear’s response. A is generally used for environmental measurements. The C scale approximates a flat response and is typically used to measure low-frequency machinery noise where the target sound level is already known.
- Press the **FAST/SLOW** (6) button to toggle between response-time scales. Select FAST for general applications and SLOW to check the avg. level of fluctuating noise, like machinery.
- Point the **MICROPHONE** (2) at the sound source. The decibel level is displayed.
- Press the **BACKLIGHT** (7) button to turn on/off the illuminated display. The backlight auto-matically turns off after 15 seconds.
- Press the **POWER** (9) button to turn the meter off.

3-B. HOLD FUNCTION

With the meter on, press the **HOLD** (5) button to display “HOLD” and the last dB reading. Press **HOLD** (5) again to exit this function.

3-C. MAX/MIN FUNCTION

The Max/Min dB readings are continually updated as soon as the meter is turned on. These readings are reset when you exit the Max/Min function, or when the meter is turned off.

- With the meter on, press the **MAX/MIN** (8) button once to display “MIN” and the minimum recorded dB level. The display will be updated when there is a lower dB reading.
- Press the **MAX/MIN** (8) button again to display “MAX” and the maximum (peak) recorded dB level. The display will be updated only when the max (peak) dB level is exceeded.
- To exit this function, press and hold the **MAX/MIN** (8) button for at least 2 seconds, then release. The current dB reading is displayed.

NOTE: When the meter is first turned on, there may be a dB “spike” that could influence the maximum (peak) reading. To ensure accuracy, enter and exit the MAX/MIN function once to reset the recorded dB levels.

3-D. CALIBRATION

Use Sper Scientific Acoustical Calibrator 850016 (or equivalent) to calibrate the meter. Perform the calibration at temperatures between 58~78°F (15~25°C). The calibrator and meter should be at the same temperature.

- Remove the **WINDSCREEN** (1) and turn on the meter by pressing the **POWER** (9) button.
- Turn the acoustical calibrator on to 94.0 dB and place it onto the **MICROPHONE** (2).
- With the meter in FAST response mode and A (dBA) weighting, press and hold the **A/C** (4) button.
- Without releasing the **A/C** (4) button, press and hold the **HOLD** (5) button. The display will go blank.
- Release both buttons and “94.0” \pm 0.2 is displayed.
- The calibration process can be repeated until the meter reads the desired value.
- This completes the calibration process.

4. AUTO POWER OFF

If no buttons are pushed for about 3 minutes, the meter will automatically turn off.

5. BATTERY REPLACEMENT



- Turn off the meter when the low battery icon is displayed.
- Slide **BATTERY COMPARTMENT** (10) cover down to install a fresh 9V battery.
- Replace the cover.
- Expected battery life is about 50 hrs.

6. SPECIFICATIONS

Display	3/4" high digits, 4-digit LCD, display updates every 0.5 seconds.
Range	dynamic range: 50dB auto-ranging: 30~130dB A (dBA) weighting: 30~130dB C (dBC) weighting: 35~130dB
Resolution	0.1dB
Accuracy	±1.5dB
Frequency	31.5 HZ ~ 8KHZ
Response	Fast = 125mS, Slow = 1 sec
Operating Environ.	41~104°F (5~40°C) <80% RH & up to 2000m above sea level
Storage Environ.	13~140°F (-10°C~60°C) & < 70%RH
Weight & Dimension	6 oz (170 g) 8" x 2 1/8" x 1 1/2", 200 x 55 x 38 mm

7. OPTIONAL ACCESSORIES

850016 Acoustical Calibrator

840091 Windscreen

850000 Rubber Boot

8. WARRANTY

Sper Scientific warrants this product against defects in materials and workmanship for **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 damage resulting from accident, misuse, or abuse of the product.

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

SPER SCIENTIFIC LTD.

8281 East Evans Road, 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.sperscientific.com, or return your warranty card within 10 days of purchase.