REED

Model R8050

Sound Level Meter

Instruction Manual

www.reedinstruments.com

REED Instruments

1-877-849-2127 | info@reedinstruments.com | www.reedinstruments.com

Table of Contents

Safety

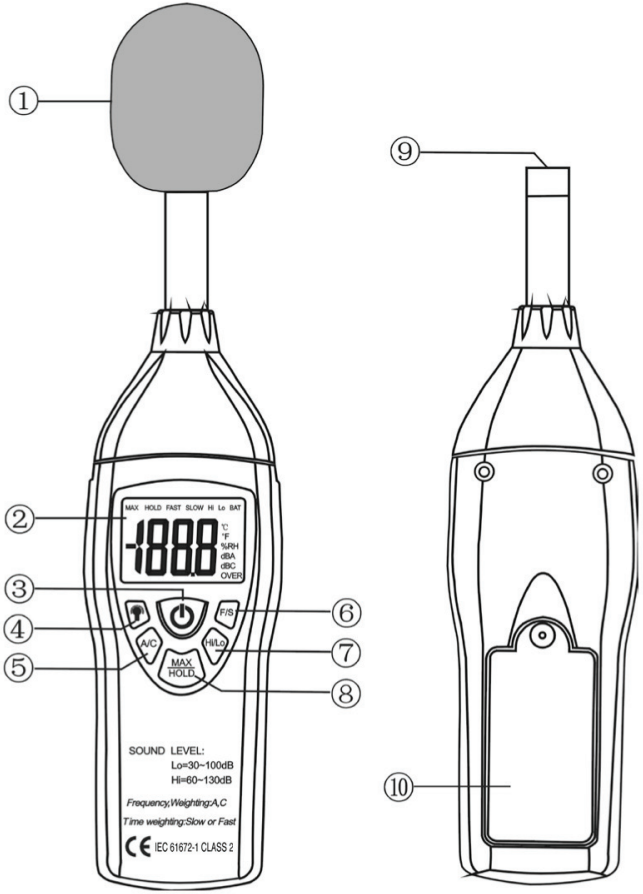
Read the following safety information carefully before attempting to operate or service this meter. Use this meter only as specified in this manual; otherwise, its proper operation may be impaired.

- Altitude up to 2000 meters
- Relatively humidity up to 90% R.H. max.
- Ambient temperature: 0 to 40°C
- Repairs or servicing not covered in this manual should only be performed by qualified personnel
- Periodically wipe the case with a dry cloth
- Do not use abrasives or solvents on this instrument

Specifications

Standard Applied:	IEC 61672-1 CLASS 2
Frequency Range:	31.5Hz~8KHz
Measuring Level Range:	30~130 dB
Resolution:	0.1 dB
Accuracy:	±1.4 dB (under reference conditions)
Frequency Weighting:	A & C
Time Weighting:	Fast: 125mS: Slow: 1 sec.
Level Ranges:	Lo: 30~100 dB; Hi: 60~130 dB
Display:	4-digit LCD
Display Update:	0.5 sec.
Alarm Function:	“OVER” is show when input is out of range
Maximum Hold:	Hold readings the Maximum Value, with decay < 1dB/3minutes
Microphone:	1/2 inch electret condenser microphone
Calibration:	Electrical calibration with the internal oscillator (1kHz sine wave)
Auto Power Off:	Meter automatically shuts down after approx. 15 minutes of inactivity
Operating Temperature:	0 to 40°C (32 to 104°F)
Operating Humidity:	10 to 90% RH
Storage Temperature:	-10 to 60°C (14 to 140°F)
Storage Humidity:	10 to 75% RH
Power Supply:	One 9V battery, 006P or IEC 6F22 or NEDA 1604 (included)
Battery Life:	About 50 hrs. (alkaline battery)
Dimensions:	210 x 55 x 32mm (8.26 x 2.16 x 1.25”)
Weight:	230g (8.11oz) (including battery)
IIncludes:	Batteries and carrying case
Optional Accessories:	Tripod (model BS-6)

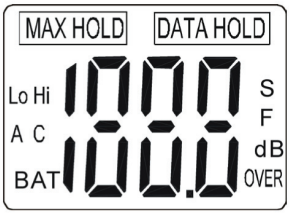
Instrument Description



1. *Windscreen*

If you operate at wind speeds over 10m/sec, please put protective accessories in front of the microphone.

2. *Display*



SYMBOL	FUNCTION
LCD	4-digits
MAX	Max. value hold
OVER	Over range
F	Fast response
S	Slow response
A	A-weighting
C	C-weighting
LO	Low range
HI	High range
BAT	Low battery

3. *Power ON/OFF Button*

Turn the meter power ON/OFF ⏻

4. *Backlight Button* ○

Turn the display backlight ON/OFF

5. *A-Weighting/C-Weighting Select Button* **A/C**

A: A-Weighting. For general sound level measurements.

C: C-Weighting. For checking the low frequency content of noise.

(If the C-Weighted level is much higher than the A-Weighted level, then there is a large amount of low-frequency noise)

6. *Time Weighting Select Button* **F/S**

F (Fast Response): For normal measurements (fast varying noise)

S (Slow Response): For checking average level of fluctuating noise

7. *Level Range Select Button* **Lo/Hi**

LO: 30~100dB; **HI:** 60~130dB

When “OVER” is indicated, the meter automatically switches to the other measurement range.

8. MAX/HOLD Button **MAX/HOLD**

The MAX Hold position is used to measure the maximum level of sounds. The maximum measured level is updated continuously. Pressing the button a second time will release the maximum hold function and allow another measurement.

The Data HOLD function freezes the reading on the display. Data HOLD Button: Press and hold the button for 2 seconds to turn the Data HOLD function on or off.

9. Microphone

1/2-inch electret condenser microphone

10. Battery Cover

Operating Instructions

Notes

- Wind blowing across the microphone will bring additional extraneous noise. If using the instrument in the presence of wind, it is recommended to put the windscreen on the microphone so as not to pick up undesirable signals.
- To achieve more accurate measurements, use an extension cable to separate the microphone from the main body so that the effect of unexpected sound reflection can be eliminated.
- Calibrate the instrument before operation if the instrument has not been in use for a long period of time or was last operated under extreme conditions.
- Do not store or operate the instrument in high temperature and high humidity environments.
- Keep microphone dry and avoid severe vibrations.
- When not in use, please take the battery out and keep the instrument in a low humidity environment.

Measurement Procedures

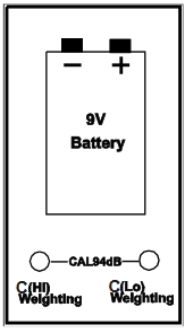
1. Turn on power and select the desired response time and weighting. If the sound source consists of short bursts or only catching sound peak, set response to FAST. To measure average sound, use the SLOW setting. Select A-weighting for general noise sound level and C-weighting for measuring sound level of acoustic material.
2. Select desired level.
3. Hold the instrument comfortably in hand or fix on a tripod and point the microphone at the suspected noise source, the sound pressure level will be displayed.
4. When MAX (maximum hold) mode is chosen. The instrument captures and holds the maximum noise level for a long period using any of the time weightings and ranges.
5. When HOLD (data hold) mode is chosen.The hold function freezes the reading in the display. Press the HOLD button momentarily to activate or to exit the HOLD function.
6. Turn OFF the instrument and remove and remove battery when not in use.

Battery Replacement

1. Battery Loading: Open the battery cover and install a 9-Volt battery in the battery compartment.
2. Battery Replacement: When the battery voltage drops below the operating voltage, “BAT” appears in the display and the existing battery should be replaced with a new one.

Calibration Procedure

To calibrate the REED R8050, an external calibrator that can provide a 94.0dB signal at 1 kHz is required (REED R8090) in addition to a small screw-driver.



1. Open the battery compartment and locate the two calibration potentiometers behind the 9V battery (see diagram)
2. Turn the meter ON
3. Put the meter in the ‘C’ weighting mode
4. Put the meter in the ‘FAST’ response mode
5. Place the REED R8050 microphone into the calibrator. Set the calibrator to output a 1kHz sine wave @ 94dB
6. Put the meter in the LOW range
7. Adjust the ‘C (Lo)’ potentiometer for a display of 94.0 dB
8. Put the meter in the HIGH range
9. Adjust the ‘C (HI)’ potentiometer for a display of 94.0 dB

For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com