R8080

REED INSTRUMENTS

Sound Level Meter/ Data Logger



Instruction Manual

WARRANTY 1 YEAR WARRANTY

REED Instruments
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Introduction

Thank you for purchasing your REED R8080 Sound Level Meter/Data Logger. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

Product Quality

This product has been manufactured in an ISO9001 facility and has been calibrated during the manufacturing process to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

Features

- High accuracy of ±1.4 dB meets Type 2 standards
- Triple range measurement (60dB dynamic range)
- A & C frequency weighting
- Fast & Slow time weighting
- Record up to 64,000 datapoints and keep track with internal time and date stamp
- User selectable sampling rate from 1 to 60 seconds
- Large, easy-to-read backlit LCD display
- Digital analog bargraph
- Min/Max hold and auto shut off
- Tripod mount for long-term monitoring
- Low battery indicator

Specifications

Measuring Ranges:	Low: 30 to 90 dB Med: 50 to 110 dB High: 70 to 130 dB Full: 30 to 130 dB
Dynamic Range:	60 dB (in each range)
Accuracy:	±1.4 dB
Resolution:	Digital: 0.1 dB Analog: 2dB
Response Time:	Digital: 500ms Analog: 50ms
Frequency Range:	20 Hz to 8 kHz
Frequency Weighting:	A, C
Time Weighting:	Fast/Slow (125ms and 1s)
Microphone:	0.5" (12.7mm) electret condenser
Digital Analog Bargraph:	Yes (30 segment)
Display:	4-digit LCD
Backlit Display:	Yes
Min:	Yes
Max:	Yes
Alarm Indicators:	Under and Over (visual on-screen)
Datalogging Capabilities:	Yes
Real-Time Clock and Date Stamp:	Yes
Selectable Sampling Rate:	Yes (between 1s and 60s)
Internal Memory	1mb (64,000 datapoints)
Auto Shut-off:	Yes (after 30 mins/off)
Tripod Mountable:	Yes
Low Battery Indicator:	Yes
Power Supply:	4 x AAA batteries
Output:	Yes (AC/DC)
Battery Life:	Approx 50 hours
PC Connectivity:	USB

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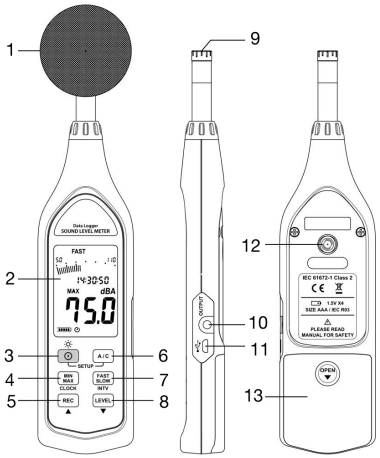
Software OS Compatibility:	Windows XP/Vista/7/8/10/11
Product Certifications:	CE, IEC 61672-1 Class 2, ANSI S1.4 Type 2
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	14 to 140°F (-10 to 60°C)
Operating Humidity Range:	10 to 90%
Dimensions:	10.4 x 2.5 x 1" (264 x 63 x 29mm)
Weight:	8.8oz (245g)

Included

- Windshield Ball
- USB Cable
- PC Software
- Hard Carrying Case
- Batteries

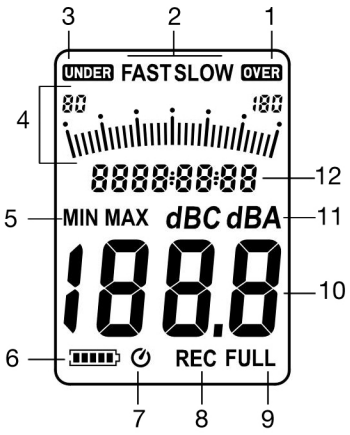
Instrument Description

1. Windscreen
2. Display
3. Power/Backlight Button
4. MIN/MAX/Clock Button
5. Record Button/Up
6. Frequency Weighting/ Setup Button
7. Time Weighting/ Interval Button
8. Level Range Button/Down
9. Microphone
10. AC/DC Output Terminal
11. USB Terminal
12. Tripod Mounting Screw
13. Battery Cover



Display Description

1. Over Range Indicator
2. Time Weighting Indicator
3. Under Range Indicator
4. Bar Graph Indicator
5. MIN/MAX Indicator
6. Battery Capacity Indicator
7. Auto Power Off Indicator
8. Recording Indicator
9. Full Memory Indicator
10. Measured Value
11. Frequency Weighting Indicator
12. Date/Time



Software Installation

Install the included software by placing the supplied program disc in the PC's CD-ROM drive. If the installation program does not automatically start, open and browse the CD-ROM drive from your computer. Double click on the setup file and follow the on-screen prompts to install the software.

If your computer does not have a CD drive please visit www.reedinstruments.com/software to download the latest R8080 software.

Full specifications and Operating System compatibility can be found on the product page at www.reedinstruments.com.

If you have specific questions related to your application and/or questions related to software setup and functionality please contact the nearest authorized distributor or Customer Service at info@reedinstruments.com or 1-877-849-2127.

Operating Instructions

Note: Remove the protective plastic film from the display before powering on your new meter. Leaving it on can make the screen appear scratched or used.

1. Turn the meter on by pressing the Power Button. To turn the meter off, press and hold the Power Button.
2. Press the Time Weighting Button to select the desired Response Time. If the sound source consists of short bursts, set the response to FAST. To measure average sound level, select SLOW
3. Press the Frequency Weighting Button to select the Frequency. Select "A" Weighting for a general noise sound level, or "C" Weighting for measuring high level noise. "C" Weighting is a standard weighting of the audible frequencies commonly used for the measurement of Peak Sound Pressure Level. If the "C" Weighted Level is much higher than the "A" Weighted Level then there will be a large amount of low-frequency noise.
4. Press the Level Range Button to select the desired dB range. Choose a dB range in which the measured level is registering approximately in the middle of the bar graph. If the over range indicator appears during your measurement, the upper limit of the selected dB range has been exceeded. Adjust the selected dB range until the over range indicator disappears from the screen. Furthermore, if the under range indicator appears during your measurement, the lower limit of the selected dB range is too high to register your measurement. Adjust the selected dB range until the under range indicator disappears.
5. Hold the instrument comfortably in one hand (away from your body) or position it on a tripod for long-term monitoring. Point the microphone in the direction of the noise to take a measurement.

NOTE: Direct contact with strong winds or blowing air on the microphone may cause measurement errors. These effects can be reduced by using the included windscreen.

MIN/MAX

Press the **MIN/MAX** button to display the Maximum and Minimum sound level values recorded during the measurement process.

1. Press the **MIN/MAX** Button once to display the maximum value.
2. Press the button again to display the minimum value.
3. Press and hold the button once more to resume normal operation.

Auto Power OFF

To preserve battery life, the meter is programmed to turn itself off after 30 minutes of inactivity. To turn this function off, while the meter is off, press and hold the **FAST/SLOW** Button while turning the meter on. When the meter turns on release both the **FAST/SLOW** Button and Power button. The Auto Power Off indicator will not appear on the display, confirming this feature is now disabled. If the meter is turned off then back on, the "Auto Power Off" feature will be enabled again.

NOTE: The Auto Power Off is disabled during data logging or when the meter is connected to a PC.

Backlight

Press the Backlight Button to turn the LCD Backlight on and off. The backlight will automatically turn off after 30 seconds.

Setting the Date and Time

In order to set the time and date on the meter, follow steps 1 through 5.

1. While the meter is off, enter the Setup mode by pressing and holding the Power Button and A/C buttons simultaneously. "Set" will flash on the display indicating you are in the Setup mode.
2. Press the **MIN/MAX** (Clock) button to enter the time and date setup screen.
3. Press the Up and Down arrows to adjust the year.
4. Press the **MIN/MAX** (Clock) button again to toggle through Month, Day, Hour (24-hours), Minutes and Seconds. During each selection the Up and Down arrows can be used to adjust the selected value.

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5. Press the **MIN/MAX** (Clock) button after seconds to save and exit the Setup mode.

NOTE: Press the Power button to exit Setup mode at any time.

Setting the Datalogging Recording Interval

In order to set the sampling rate on the meter, follow steps 1 through 4.

1. While the meter is off, enter the Setup mode by pressing and holding the Power Button and A/C buttons simultaneously. "Set" will flash on the display indicating you are in the Setup mode.
2. Press the **FAST/SLOW** (INTV) button to enter Recording Interval setup screen as indicated by "Int".
3. Press the Up and Down arrows to adjust the recording interval. A maximum value of 1 minute and minimum value of 1 second can be set.
4. Press the **FAST/SLOW** (INTV) button to save the desired sampling rate and resume normal operation.

NOTE: Press the Power button to exit Setup mode at any time.

Datalogging

1. Turn the meter on and select your desired sampling rate (See "Setting the Datalogging Recording Interval" above).
2. Press the **REC** button to begin datalogging.
3. Press the **REC** button again to stop datalogging.

Clearing Stored Data

To delete internal memory press and hold the **REC** button and Power button simultaneously for 5 seconds when the meter is off. The display will show a 5 second countdown. Once the countdown is completed "Clear" will display confirming the memory has been erased.

Calibration Procedure



In order to calibrate the R8080 an external calibrator that can provide a 94.0dB signal is required (REED R8090). If the meter has been exposed to extreme conditions or it has not been used in a long period of time the meter should be calibrated by following steps 1 through 6 below.

1. Remove windshield ball.
2. While the meter is off, press and hold the **MIN/MAX** button while turning the meter on.
3. When the meter turns on release both the **MIN/MAX** and Power button to enter calibration mode as indicated on-screen by "CAL 94dB".
4. Insert the microphone into the calibrator.
5. Press the Up and Down arrow buttons to increase or decrease the dB level to match the Sound Calibrator output.
6. Once the desired dB level has been attained press the **MIN/MAX** button to save the setting and exit calibration mode.

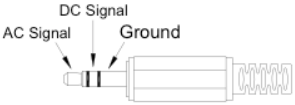
NOTE: Press the Power button to exit the calibration mode at any time.

Battery Replacement

Periodically check the Battery Indicator on the display. When there are no more bars on the Battery Indicator you will need to replace the batteries. Remove the battery cover on the back and insert four new AAA (1.5V) Batteries.

AC/DC Signal Output Jack

The meter is equipped with an AC/DC output jack to connect and integrate with external systems. For example, the AC output can be used with a frequency analyzer or oscilloscope to identify the frequency level during a measurement. The DC output is used to identify the dB level during a measurement.

AC/DC Output Connector	3.5mm Sub-Miniature Phone Jack
Connector Diagram	
AC Output Voltage Range	1 Vrms at FS (full scale) (FS refers to the upper limit of the selected dB level range. For example if 30-90dB is the selected level range, 1Vrms = 90dB)
DC Output Voltage Range	10mV / dB

Applications

- Preventative Maintenance
- Industrial Machinery/Equipment
- Construction Sites
- Ensuring Safe Working Conditions
- Public Venues / Concerts
- Code Enforcement
- Traffic
- Appliance Noise Testing
- Long-term Measurement
- Recording of Acoustic Levels for Environmental Impact Studies

Accessories and Replacement Parts

SB-01 Replacement Windshield Ball

CA-05A Soft Carrying Case

R8888 Deluxe Hard Carrying Case

R8090 Sound Level Calibrator

R1500 Tripod

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on www.reedinstruments.com.

Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at info@reedinstruments.com to discuss the claim and determine the appropriate steps to process the warranty.

Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at info@reedinstruments.com.

Please visit **www.REEDInstruments.com** for the most up-to-date manuals, datasheets, product guides and software.

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