R1620

REED INSTRUMENTS

Sound Level Meter

SMART Series

Instruction Manual

WARRANTY 1 YEAR WARRANTY

Table of Contents

Introduction

Thank you for purchasing your REED R1620 Sound Level Meter, Bluetooth® Smart Series. 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.
- Magnetic field warning; please keep a minimum distance of 4 inches (10cm) between pacemaker and meter.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC RF Exposure Statement

This product complies with FCC portable RF exposure limit set forth for an uncontrolled environment and is safe for the intended operation as described in this manual.

IC statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003.
CAN ICES-003(B)/NMB-003(B)

IC RF Exposure Statement

This product complies with the Canadian portable RF exposure limit set forth for an uncontrolled environment and is safe for the intended operation as described in this manual.

Features

- High accuracy of ±1.5dB
- A & C frequency weighting
- Fast & Slow time weighting
- Easy to operate, designed for one hand operation
- Integrated display provides flexibility for use without mobile device
- Magnetic backing allows instrument to be mounted to metallic surfaces
- Data Hold function
- Low battery indicator and auto shut off
- Tripod mount for long-term monitoring

When used with REED Smart Series App:

- Real-time data logger
- User selectable sampling rate from 1 to 120 seconds
- Bluetooth® 5.0 provides connectivity to instruments up to 246' (75m) away
- Connect, measure and datalog up to 6 instruments, simultaneously
- Easy setup with automatic app integration for compatible REED Smart Series instruments
- Export data via Excel or PDF and create custom reports that can be emailed from mobile device

Included

- Sound Level Meter
- Windshield Ball
- 4 x AAA Batteries

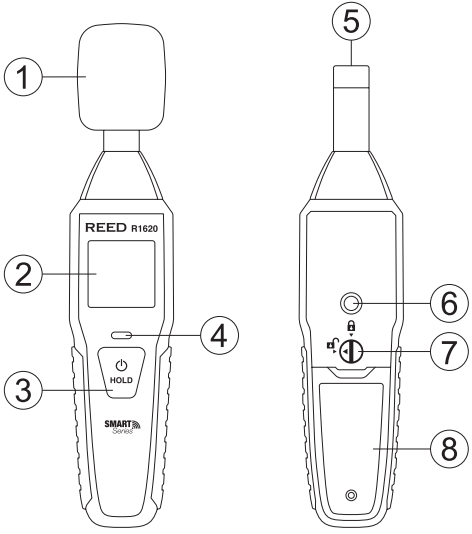
Specifications

Measuring Range:	30 to 130dB
Accuracy:	±1.5dB (at 1kHz)
Resolution:	0.1dB
Display:	Enhanced Black Twisted Nematic (EBTN) LCD
Display Size:	1.3" (34mm)
Backlit Display:	Yes
Data Hold:	Yes
Time Weighting:	Fast/Slow (125mS and 1s)
Frequency Range:	31.5Hz to 8kHz
Refresh Rate:	Fast 0.5 times/second, Slow 1 times/second
Frequency Weighting:	A/C
Microphone:	0.5" (12.7mm) electret condenser
Datalogging Capabilities:	Yes (with Smart Series App)
Real-Time Clock and Date Stamp:	Yes (with Smart Series App)
Customizable Sampling Rate:	Yes
Overrange Indicator:	Yes
Auto Shut-off:	Yes (adjustable)
Tripod Mountable:	Yes
Magnetic Backing:	Yes
Low Battery Indicator:	Yes
Power Supply:	4 x AAA Batteries
Battery Life:	Approx. 50 hours (sampling time dependent)

continued…

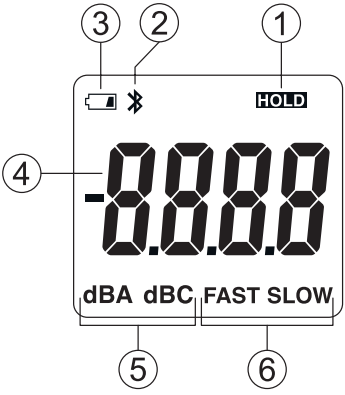
Connectivity:	Bluetooth® 5.0
Bluetooth® Range:	Up to 246' (75m)
Max # of Connected Devices:	6
Software:	REED Smart Series App (iOS and Android)
App Supported Languages:	English, French
Product Certifications:	CE, UKCA, FCC, IC ID
Maximum Operating Altitude:	6561' (2000m)
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	-4 to 140°F (-20 to 60°C)
Operating Humidity Range:	10 to 90%
Storage Humidity Range:	10 to 90%
Dimensions:	7.1 x 1.5 x 1" (180 x 38 x 25mm)
Weight:	3.5oz (100g)

Instrument Description



1. Windscreen
2. LCD Display
3. POWER/HOLD Button
4. Bluetooth® Status Indicator Light
5. Microphone
6. Tripod Mounting Screw
7. Battery Cover Lock
8. Battery Cover

Display Description



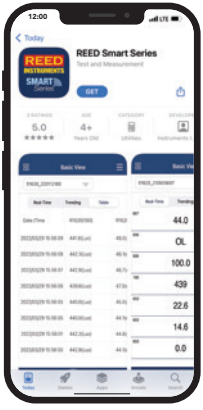
1. Data Hold Indicator
2. Bluetooth® Indicator
3. Low Battery Indicator
4. Sound Measurement Value
5. Frequency Weighing Indicator
6. Time Weighting Indicator

REED Smart Series App

REED Smart Series instruments can be connected wirelessly to your smartphone or tablet. All measurement data is transmitted via Bluetooth® to the free REED Smart Series app. The app allows users to analyze data, generate reports and send information by email directly from a mobile device.

App Features:

- Bluetooth® 5.0 provides connectivity to instruments up to 246' (75m) away
- Connect, measure and datalog up to 6 instruments, simultaneously
- Easy setup with automatic app integration (Bluetooth® pairing not required)
- Measurement data is displayed as instrument readings, tables, or graphs
- Save data in PDF or Excel Format
- Create custom reports that can be saved on a mobile device or sent by email



To learn more and download the REED Smart Series App from the Google Playstore (Android) or Apple App Store (iOS), visit www.REEDInstruments.com/smartseries.

You can also search for the "REED Smart Series" app directly from your device.

Download on the App Store

GET IT ON Google Play

Full specifications and Operating System compatibility can be found on the product page at www.REEDInstruments.com/r1620. 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

Power ON/OFF

Turn the meter ON by holding down the POWER button for approximately 2 seconds. To turn the meter OFF, press and hold the POWER button until the 3 second shutdown timer begins as indicated by 3OFF, 2OFF and 1OFF. Once the countdown is complete, the meter will power OFF.

Note: If the POWER button is released before the countdown is completed, the meter will resume normal operation.

Backlight

After powering the meter ON, the LCD Backlight will turn on automatically. In order to preserve battery power, the LCD will turn off after approximately 15 seconds. To turn the screen back on, press the POWER button.

Establishing Bluetooth® Connection

1. In order to establish Bluetooth® connection, the REED Smart Series App must be installed on your mobile device.
2. When the App is open and the meter is powered on, the meter will automatically attempt to establish connection with the App. Until the connection is established, the Bluetooth® status indicator light will flash blue.
3. When connection is successful the Bluetooth® status indicator remains blue and the the current readings are automatically displayed in the App.

REED Smart Series meters feature Bluetooth® 5.0 connectivity which does not require meters to be paired with the device.
If the App is open and the meter is powered on, a connection will automatically be established.

continued…

Selecting Frequency Weighting & Response Time

1. When the meter is powered on, press and hold the POWER button until SET1 appears, indicating the meter is in Frequency Weighting selection mode.
2. The default setting will be dBA. To toggle between dBA and dBC, press the POWER button. ("A" Weighting should be selected for a general noise sound level, and "C" Weighting should be selected 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.)
3. Press and hold the POWER button to confirm your selection and skip to SET 2 which allows a user to select the desired Response Time.
4. Press the POWER button to toggle between FAST and SLOW. (If the sound source consists of short bursts, set the response to FAST (125ms). To measure average sound level, select SLOW (1 second).)
5. Press and hold the POWER button to confirm your selection and release it once the 3 second countdown begins to resume normal operation.

Note: If "OL" appears on the LCD display, sound measurement is currently out of range.

Enabling/Disabling Data Hold

1. Press the **HOLD** button to freeze the current reading on the display.
2. Press the **HOLD** button again to resume normal operation.

Enabling/Disabling Auto Power OFF

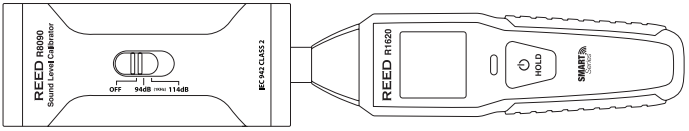
To preserve battery life, the meter is programmed to turn itself off after 30 minutes of inactivity.

Note: The Auto Power OFF feature can be disabled through the App. (See REED Smart Series Software Guide located in the "Menu" section of the App for additional details.)

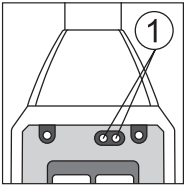
continued…

Calibration Procedure

To calibrate the REED R1620, an external calibrator that can provide a 94.0dB signal at 1kHz (REED R8090) and a mini screw-driver (REED R1300) are required. Follow the steps below to calibrate the instrument.



1. Open the battery compartment and locate the two calibration potentiometers.
2. Turn the meter ON.
3. Select "C" weighting mode.
4. Select "FAST" response mode.
5. Remove the windshield ball and place the REED R1620 microphone into the calibrator. Set the calibrator to output 94dB.



1. Calibration Potentiometers

6. Turn the meter over and with a mini screwdriver fine-tune the left potentiometer until the LCD displays 94dB. Please note the live reading can be seen in the App so the meter does not need to be flipped over.
7. Switch the meter to "A" weighting mode.
8. Adjust the right potentiometer until the LCD displays 94.0dB.
9. When calibration is complete, secure the battery compartment back into place.

For additional information on App features including sampling rate setup, data logging, data analysis, export and report generation please see the REED Smart Series App Software Guide at www.REEDInstruments.com/smartseries

Battery Replacement

When the low battery icon appears on the LCD display, the batteries will need to be replaced. In order to replace the batteries, proceed with the following steps:

1. Turn off the meter.
2. Unlock the battery compartment located at the back of the meter.
3. Remove the battery cover.
4. Replace the 4 x AAA batteries.
5. Secure the battery cover and lock it in place.

Applications

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

Accessories and Replacement Parts

CA-52A Small Soft Carrying Case

R8888 Medium Hard Carrying Case

R8090 Sound Level Calibrator

R1500 Tripod

R1300 Calibration Screwdriver

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.

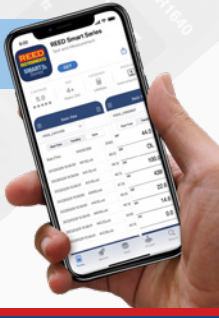
REED INSTRUMENTS

SMART Series

✓Vane Anemometer ✓Thermo-Hygrometer ✓Sound Level Meter
✓Light Meter ✓Thermocouple Thermometer

Connect wirelessly to your smartphone or tablet via the **REED Smart Series App**

- Bluetooth® 5.0 provides connectivity to instruments up to 246' (75m) away
- Analyze data and create custom reports that can be saved on a mobile device or sent by email



Download on the App Store

GET IT ON Google Play

www.REEDInstruments.com/smartseries

REED
INSTRUMENTS

TEST & MEASURE WITH CONFIDENCE

Access our Product Catalog

Over 200 portable test and measurement instruments

www.REEDInstruments.com

REED INSTRUMENTS

www.REEDInstruments.com