EXTECH®
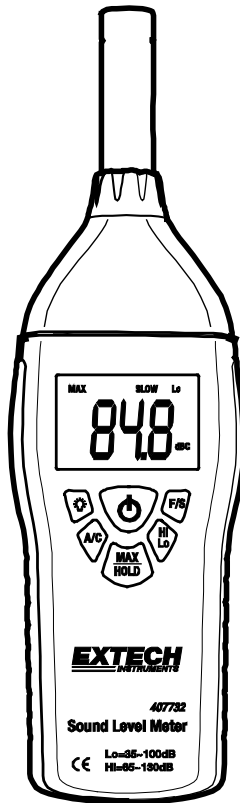
Digital Sound Level Meter

Model 407732

Additional User Manual translations available at www.extech.com

Introduction

Thank you for selecting the Extech Model 407732. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit the Extech Instruments website (www.extech.com) to check for the latest version of this User Manual.

Safety

⚠ Read the following safety information carefully before attempting to operate or service the meter. Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired.

Environmental Conditions

- Altitude up to 2000 meters
- Relative Humidity: 90% max.
- Operating Temperature: 32 to 104°F (0 to 40°C)

Maintenance and Cleaning

- Repair 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.

Meter Description

1. Microphone
2. 4-digit LCD Display
3. ON-OFF button
4. LCD Backlight button
5. Frequency weighting selection button
6. Response time selection button
7. Range selector button
8. Max Hold / Data Hold selector button
9. Battery compartment on rear
10. Calibration pots in battery compartment
11. Windscreen
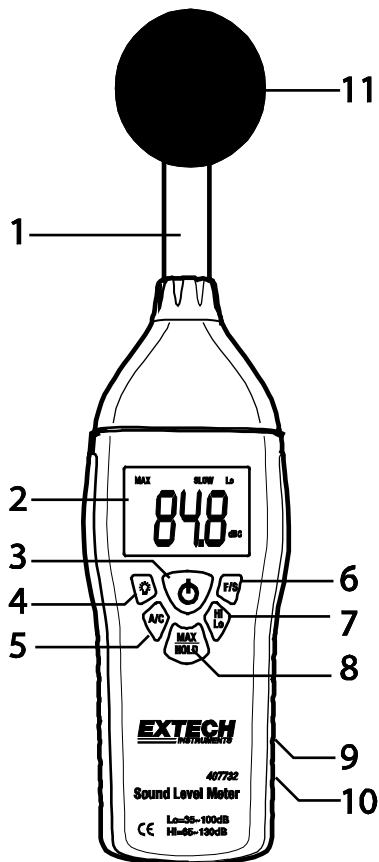
Measurement Considerations

1. Wind blowing across the microphone increases the noise measurement. Use the supplied windscreen to cover the microphone when applicable.
2. Calibrate the instrument before each use if possible. Especially if the meter has not been used for a long period of time.
3. Do not store or operate the instrument in areas of high temperature or humidity.
4. Keep meter and microphone dry.
5. Avoid severe vibration.
6. Remove the battery when the meter is to be stored for long periods of time.

Operation

1. Power the meter by pressing the ⏻ power button. The meter will begin displaying sound level readings. If the LCD does not switch on, check the 9V battery located in the rear battery compartment.
2. Hold the meter in hand facing the microphone toward the source of the sound to be measured.
3. View the measurement on the meter's LCD. An indication of **OVER** means that the measurement is out of range. Toggle the 'Hi' (65 to 130dB) and 'Lo' (35 to 100dB) measurement ranges using the HI/LO button. For measurements in the 65 to 100dB region either range can be used.

'A' and 'C' Frequency Weighting

Use the 'A/C' button to select 'A' or 'C' frequency weighting. With 'A' weighting selected, the frequency response of the meter is like the response of the human ear. 'A' weighting is commonly used for environmental or hearing conservation programs such as OSHA regulatory testing and noise ordinance law enforcement. 'C' weighting is a much flatter response and is suitable for the sound level analysis of machines, engines, etc.

Most noise measurements are performed using 'A' Weighting and SLOW Response.

'FAST' and 'SLOW' Response Time

Use the 'F/C' button to select FAST (125 ms) or SLOW (1 second) response time. Select FAST to capture noise peaks and noises that occur very quickly. Select the SLOW response to monitor a sound source that has a consistent noise level or to average quickly changing levels.

Select Slow response for most applications.

'Hi' and 'Lo' Range Selections

Use the 'Hi/Lo' button to select the appropriate range. If the measurement is in the range of 35 to 100 dB, use the 'Lo' range. If the measurement is between 65 and 130dB, use the 'Hi' range. For measurements between 65 and 100dB, either range can be used. If the display flashes the OVER icon, press the range button to toggle the range.

MAX HOLD

In this mode, the meter only updates the LCD when a higher reading than the one presently on the display is detected. Select MAX HOLD by momentarily pressing the MAX HOLD button. The meter displays the MAX icon when in the MAX HOLD mode. Press the MAX HOLD button again to exit this mode (the MAX indicator will switch off).

DATA HOLD

To freeze a displayed reading, press and hold the MAX HOLD button until the MAX and HOLD display icons appear. To release the display and return to the normal operating mode, press and hold the MAX HOLD button until the MAX and HOLD icons switch off.

Backlight button 💡

The LCD is equipped with backlighting for easier viewing, especially in dimly lit areas. Press the backlight button to turn the backlight on. Press again to turn the backlight off. The backlight does not have an automatic power down function; judicious use will conserve battery life.

Calibration

To calibrate the 407732, an external calibrator that can provide a 94.0dB signal at 1 kHz is required in addition to a small screwdriver.

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 407732 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

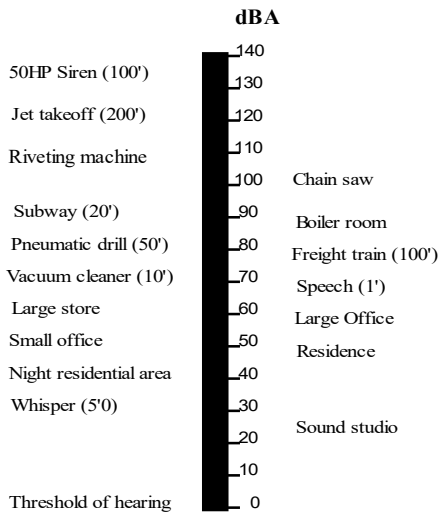9. Adjust the 'C (HI)' potentiometer for a display of 94.0 dB
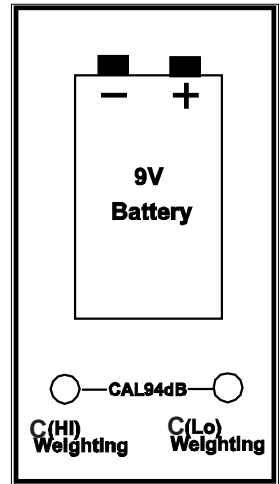
Battery Replacement

When the low battery icon **BAT** appears on the LCD replace the 9V battery as soon as possible. The battery compartment cover is located on the rear of the meter. Remove the Phillips screw to loosen the cover. Slide the battery compartment cover off, change the battery, and replace the compartment cover.

Specifications

Display	4-digit (4000 count) backlit LCD
Display update rate	0.5 seconds
Microphone	0.5" Electret condenser
Measurement Bandwidth	31.5Hz to 8KHz
Dynamic range	65dB
Measurement Range	35 to 130dB (Low: 35 to 100; High: 65 to 130dB)
Frequency weighting	'A' and 'C' (selectable)
Accuracy / Resolution	± 1.5dB (under reference conditions) / 0.1dB
Standards	Type 2 ANSI S1.4-1983, IEC 60651, EN60651
Maximum Hold decay time	<1dB / 3min
Response time	Fast: 125 milliseconds / Slow: 1 second
Calibration source required	1KHz sine wave @ 94dB
Power	9V Battery
Battery life	50 hours (typical); low battery indicator alerts user
Automatic power off	After approx. 15 minutes of inactivity
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
Dimensions/weight	9.45 x 2.68 x 1 in. (240 x 68 x 25mm) /6.75 oz (210 g)

Typical A-Weighted Sound Levels

dBA

	140	
50HP Siren (100')	130	
Jet takeoff (200')	120	
Riveting machine	110	
	100	Chain saw
Subway (20')	90	Boiler room
Pneumatic drill (50')	80	Freight train (100')
Vacuum cleaner (10')	70	Speech (1')
Large store	60	Large Office
Small office	50	Residence
Night residential area	40	
Whisper (5'0)	30	
	20	Sound studio
	10	
Threshold of hearing	0	

Two-year Warranty

Teledyne FLIR warrants this Extech brand instrument *to be free of defects in parts and workmanship for **two years** from date of shipment (a six-month limited warranty applies to sensors and cables). To view the full warranty text please visit: http://www.extech.com/support/warranties.*

Calibration and Repair Services

Teledyne FLIR offers calibration and repair services for the Extech brand products we sell. We offer NIST traceable calibration for most of our products. Contact us for information on calibration and repair availability, refer to the contact information below. Annual calibrations should be performed to verify meter performance and accuracy. Product specifications are subject to change without notice. Please visit our website for the most up-to-date product information: www.extech.com.

Contact Customer Support

Customer Support Telephone List: https://support.flir.com/contact

Calibration, Repair, and Returns: repair@extech.com

Technical Support: https://support.flir.com

407732-en-US_V2.0   6/22