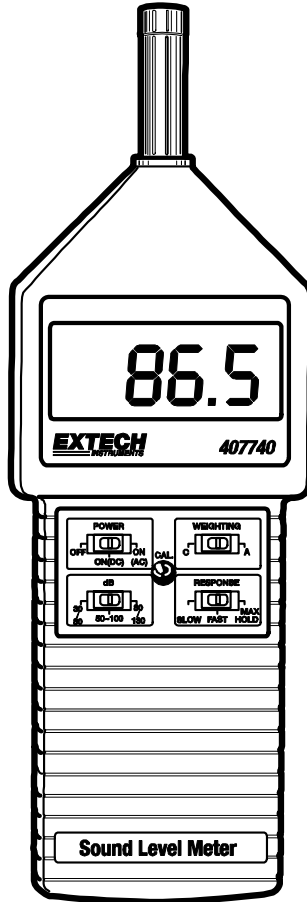


# User's Guide



## Digital Sound Level Meter

### Model 407740



### ***Introduction***

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Congratulations on your purchase of the Extech 407740 Digital Sound Level Meter. This device measures sound in decibels (dB). Useful features include A/C Weighting, Fast/Slow Response Time, and Maximum Reading HOLD. Careful use of this meter will provide years of reliable service.

## Warranty

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EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at [www.extech.com](http://www.extech.com) (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

## Specifications

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Display	2000 count multi-function LCD
Input Signal Range	'A' Weighting: 30 to 130dB 'C' Weighting: 30 to 130dB
Response Time	Fast: Response = 125ms; Slow: Response = 1s
Resolution	0.1 dB
Standards Compliance	ANSI and IEC Type 2
Accuracy (at 23° ± 5° C)	±1.5dB at 1KHz (94dB)
Frequency	31.5 to 8,000Hz
Microphone	Electric condenser microphone, 0.5" (12.7mm)
Range Selector Switch	30 to 80dB, 50 to 100dB, 80 to 130dB
External Calibrator	Use Extech model 407744 or 407766
Analog Output Signal	AC: 0.5Vrms (full scale of selected range) DC: 0.3 to 1.3VDC, 10mV/dB
Analog output impedance	600 ohms
Analog Output Terminal	3.5mm phone jack
Operating Temperature	32 °F to 122 °F (0 °C to 50 °C)
Operating Humidity	Max. 90% RH (0° to 35°C)
Power Supply	9V battery
Dimensions / Weight	10 x 2.8 x 1.1" (255 x 70 x 28mm) / 10 oz. (280 g)



### Support Hotline (781) 890-7440

Tech support: Ext. 200; Email: [support@extech.com](mailto:support@extech.com)  
Repair>Returns: Ext. 210; Email: [repair@extech.com](mailto:repair@extech.com)  
Website: [www.extech.com](http://www.extech.com)

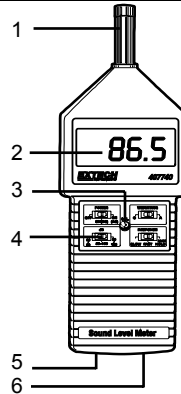
## Meter Description

1. Microphone
2. LCD Display
3. Calibration potentiometer

Note: Adjust pot only while using an acoustic Calibrator

4. Selector Switches
5. Maximum Hold reset button
6. Analog output jack

The battery compartment and tripod mount are located on the rear of the instrument



## Operation

### Powering the Meter and Configuring the Analog Output

Slide the POWER switch to the ON (DC) or ON (AC) position. The (AC) or (DC) determines the type of signal present at the analog output jack.

### Basic Measurements

Point the microphone toward the source of the sound to be measured. The meter can be held in hand or mounted on a tripod (tripod mount on rear of instrument). The meter will now display the sound level in dB.

### Selecting 'A' or 'C' Weighting

Use the Weighting selector switch to select 'A' or 'C' frequency weighting. Use 'A' weighting to have the meter simulate the response of the human ear (the human ear boosts and cuts sound levels at specific points over the frequency spectrum). 'A' weighting is used for environmental measurements, OSHA regulatory testing, law enforcement, and workplace design. Select 'C' weighting for flat response measurements (the readout does not boost or dampen the measurement across the frequency spectrum). 'C' weighting is suitable for the operational maintenance and analysis of machinery, motors, pumps, engines, etc.

### Selecting FAST or SLOW response

Use the RESPONSE switch to select Fast or Slow. The setting is determined by the application and any directives or standards related to the application. For example, most hearing conservation or OSHA related testing is done using the SLOW setting (with 'A' weighting). To capture quick sound peaks, however, use the FAST setting.

### Selecting the Measurement Range

Select the measuring range using the 'dB' selector switch. If the high (▲) or low (▼) indicators appear on the display, select a lower range (for ▲) or higher range (for ▼).

### Maximum Hold Function

Select MAX HOLD using the RESPONSE selector switch to capture the maximum dB level. The meter response will be set to FAST. The display will only display the highest reading in this mode. To reset the Maximum Hold display, press the black reset button on the bottom of the meter next to the analog output jack.

### Calibration

Frequent calibration using an acoustic calibrator is recommended. Follow the instruction provided with the calibrator.

## Battery Replacement

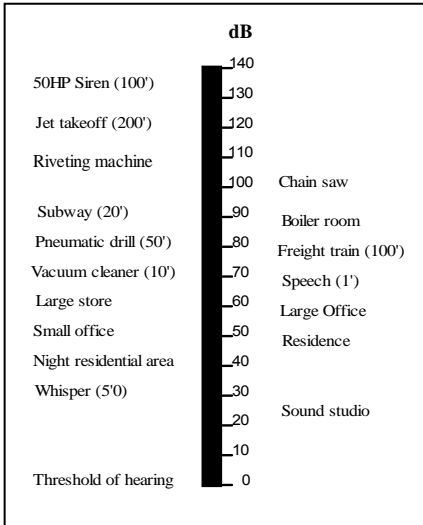
The low battery indication (BAT) appears on the LCD when the 9V battery is nearing depletion. Reliable readings can be obtained for several hours after the first appearance of the low battery indication. To replace the battery, slide the battery compartment cover off the rear of the instrument and replace the 9V battery. Secure the cover before use.

## Reference Information

### Frequency Weighting Characteristics

Frequency (Hz)	A Weighting	C Weighting	Tolerance (IEC 651 Type 2)
31.5	-39.4dB	-3dB	±3dB
63	-26.2dB	-0.8dB	±2dB
125	-16.1dB	-0.2dB	±1.5dB
250	-8.6dB	0dB	±1.5dB
500	-3.2dB	0dB	±1.5dB
1 k	0dB	0dB	±1.5dB
2 k	+1.2dB	-0.2dB	±2dB
4 k	+1dB	-0.8dB	±3dB
8 k	-1.1dB	-3dB	±5dB

### Typical A-Weighted Sound Levels



## Calibration and Repair Services

Extech offers repair and calibration services for the products we sell. Extech also provides NIST certification for most products. Call the Customer Service Department for information on calibration services available for this product. Extech recommends that annual calibrations be performed to verify meter performance and accuracy.

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