DESC: 7-Range Sound Level Meter

INTRODUCTION

Your Sound Level Meter is an extremely versatile device for measuring sound intensity in just about any acoustic environment–loud or soft; high-pitched, lowpitched, or broad-band; intermittent or continuous. You can use it to measure noise levels in factories, schools, offices, and airports, or to check acoustics of studios,auditoriums, and home theater installations.

Your meter features a large, easy-to-read indicator for taking quick measurements anywhere. Power is supplied by a 9-volt rectangular battery, so the meter is completely portable.

The meter's other features include:

Seven sound-level ranges—allow measurements from 50 - 126 dB (referenced to 0.0002µbar).

A and C weightings—lets you check compliance with safety regulations as well as make acoustic analysis.

Slow and fast response settings—let you check peak and average noise levels.

Built-in battery condition indicator

Phono-type output jack—for connection to home theater or test equipment.

Threaded insert—lets you attach the meter to a camera tripod for increased accuracy.

SPECIFICATION

Range:

Switch Setting	Range of Measurement
60 dB	50-66 dB
70 dB	60-76 dB
80 dB	70-86 dB
90 dB	80-96 dB
100 dB	90-106 dB
110 dB	100-116 dB
120 dB	110-126 dB

Load Impedance ..... 10 kohm minimum
Distortion .....Less than 2% at 1 kHz, 0.5-volt
Microphone ..... Electret condenser omnidirectional becoming slightly directional with increase in frequency
Battery ..... One 9-volt rectangular type

Accuracy ..... ±2 dB @ 114 dB
Standard ..... 0 dB = 0.0002 µbar
Weighting ..... A and C
Response ..... Fast and Slow
Signal Output ..... 1.0 volt (peak) minimum into open circuit, with full-scale meter deflection at 1 kHz
Battery Check .....Tests "good" from 7.0 To 10.5 volts
Expected Battery Life ..... 110 working hours (alkaline battery)
Size (HWD).....$6^{1}/_{4}$ * $2^{7}/_{16}$ * $1^{3}/_{4}$ inches (160*62*44mm)
Weight .....6.6 oz (about 185 grams)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

INSTALLING A BATTERY

The meter uses a 9-volt battery. For the longest life and best performance, we recommend an alkaline battery.

Open the battery compartment cover by pressing both sides at the lower striped portion and lifting the bottom. Insert a battery into the compartment as indicated by the polarity markings (+ and -) marked inside.

To test the battery, set **RANGE** to **BATT**. If the meter shows a reading in the red **BATT TEST** region, the battery is still good.

Notes:

- Leave RANGE in the OFF position when the meter is not in use to conserve battery power.
- Remove the battery if you are not going to use the meter for a week or more.

RANGE

The **RANGE** selector lets you select one of seven sound level ranges, each spanning 16 dB. The numbers on **RANGE** refer to the center points of the seven ranges. The needle indicator shows the actual sound level as a displacement from the center point. For example, if **RANGE** is set to **80** and the meter scale reads **–3**, the actual sound level is 77 as the value where **RANGE** is set, the actual sound level is 80 dB(80+0).

OUT PUT

The phonotype **OUTPUT** jack lets you connect the meter to recording or other measurement equipment. For example, you might use an audio patch cord to connect the meter to the AUX or high-level input of a recorder. Note that the meter response will not be flat, due to the A- and C-weighting networks.

Set **Range** so the maximum needle deflection is never greater than +4, to prevent the built-in amplifier from clipping. Use A-weighting for voice recordings, or C-weighting for full-range musical material. The **OUTPUT** jack can also be connected to high-impedance headphones, or an oscilloscope, a frequency analyzer, or other test equipment.

RESPONSE

The RESPONSE selector has two settings: FAST and SLOW. In the FAST position, the meter reacts quickly to changes in the sound level, showing you the peak sound levels present in the enviroment. In the SLOW position, the meter is damped and indicates an average-value sound level. The effect of brief sound peaks is minimized in this position.

WEIGHTING

Set WEIGHTING to weight the sound measurement for a particular frequency range. When set to A, the meter primarily measures frequencies in the 500-10,000 Hz range, which is the area of greatest sensitivity to the human ear. When set to C, the meter measures uniformly over the frequency range from 32-10,000 Hz,giving an indication of the overall sound level.

MICROPHONE

The meter's built-in microphone works best when you point it directly at a sound source.

TRIPOD ADAPTER