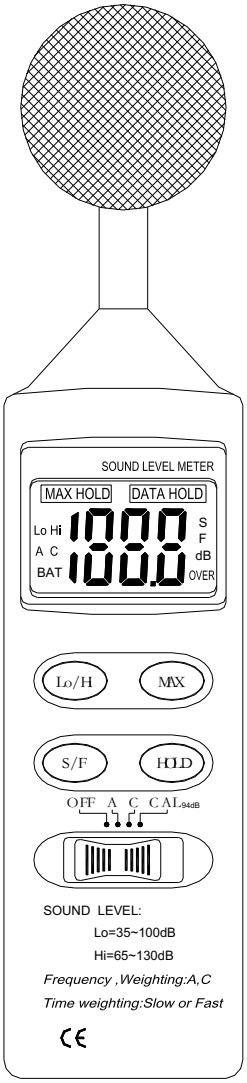
User's Manual

Sound Level Meter



SOUND LEVEL:

Lo=35~100dB

Hi=65~130dB

Frequency ,Weighting:A,C

Time weighting:Slow or Fast

CE

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Ⅰ. Safety information

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.

- **Environment conditions**

① Altitude up to 2000 meters

② Relatively humidity 90% max.

③ Operation Ambient 0~40℃

- **Maintenance & Clearing**

① Repairs or servicing not covered in this manual should only be performed by qualified personnel.

② Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instruments.

- **Safety symbols**

Meter is protected throughout by double insulation or reinforced insulation.

When servicing, use only specified replacement parts.

Comply with EMC

Ⅱ. General Description

Thank you for using our Sound Level Meter. To ensure that you can get the most from it, we recommend that you read and follow the manual carefully before use.

This unit conforms to the IEC651 type 2 for Sound Level Meter.

This Sound Level Meter has been designed to meet the measurement requirements of safety Engineers, Health, Industrial safety offices and sound quality control in various environments.

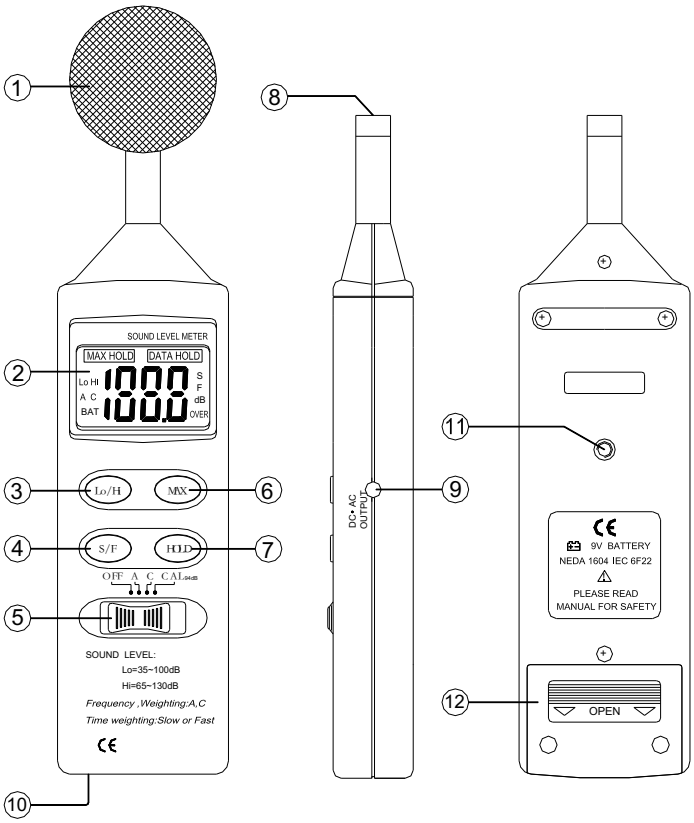
- Ranges from 35dB to 130dB at frequencies between 31.5Hz and 8 KHz.
- Display with 0.1dB steps on a 4-digits LCD.
- With two equivalent weighted sound pressure levels, A and C.
- Both AC and DC signal output is available from both standard 3.5mm coaxial socket suitable for a frequency analyzer, level recorder, FFT analyzer, graphic recorder; etc.

Ⅲ. Specifications

Standard applied	: IEC651 type 2
Frequency range	: 31.5Hz~8KHz
Measuring level range	: 35~130dB
Frequency weighting	: A/C
Microphone	: 1/2 inch electret condenser microphone
Calibration	: Electrical calibration with the internal oscillator (1kHz sine wave)
Display	: LCD
Digital display	: 4 digits Resolution: 0.1dB Display Up data: 0.5 sec.
Time weighting	: FAST(125mS), SLOW(1 sec.)
Level ranges	: Lo: 35-100dB Hi: 65-130dB
Accuracy	:± 1.5dB (under reference conditions)

Dynamic range	: 65dB
Alarm function	: “OVER” is show when input is out of range
Maximum hold	: Hold readings the Maximum Value, with decay < 1dB/3minutes.
AC output	: 0.65 Vrms at FS(full scale), Output impedance: Approx.600Ω
	(FS: means the upper limit of each level range.)
DC output	: 10mV/dB, output impedance approx. 100Ω
Power supply	: One 9V battery, 006P or IEC 6F22 or NEDA 1604.
Power life	: About 50hrs(alkaline Battery)
Operation temperature	: 0 to 40℃(32 to 104℉)
Operation humidity	: 10 to 90%RH
Storage temperature	: -10 to 60℃(14 to 140℉)
Storage humidity	: 10 to 75%RH
Dimensions	: 245(L)X64(W)X31(H)mm
	255g(including battery)
Weight	: 9V battery, carrying case, Instruction manual..

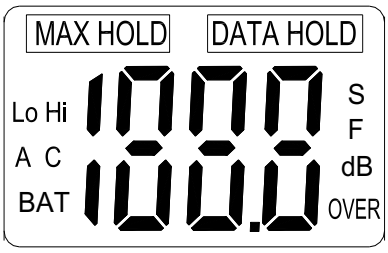
IV. Name and Functions



① **Windscreen**

If you operate at wind speed over 10m/sec, please put protective accessories in front of the microphone.

② **Display**



SYMBOL	***FUNCTION***
LCD	4digits
MAX	Maximum Value hold
OVER	Over range
F	Fast response
S	Slow response
A	A-Weighting
C	C-Weighting
Lo	Low Range (35~100dB)
Hi	High Range (65~130dB)
BAT	Low-Battery

③ **Level range select button** (Lo/Hi)

Lo: 35~100dB; **Hi**: 65~130dB

When “OVER” is indicated, the ranges switch to another range for measurement.

④ **Time weighting select button** (**S/F**)

F (fast response): for normal measurements (fast varying noise)

S (slow response): for checking average level of fluctuating noise

⑤ **Power and Function Switch** 

Turn power ON/OFF and select A/C weighting & calibration function

A: A – Weighting. For general sound level measurements.

C: C – Weighting. For checking the low- frequency content of noise.

(If the C-Weighted level is much higher than the A-Weighted level, then there is a large amount of low-frequency noise)

CAL 94dB: Calibration using the internal oscillator

⑥ **MAX Hold button** (**MAX**)

The max. Hold position is used to measure the maximum level of sounds. The maximum measured level is up dated continuously. Press once again the button, will release the hold and

allow a further measurement.

(Maximum Hold: Decay < 15 digits/3min)

⑦ Data Hold button **HOLD**

The hold function freezes the reading in the display. Press the HOLD button momentarily to activate or to exit the HOLD function

⑧ Microphone

1/2 inch Electret Condenser microphone

⑨ DC. AC Output jack

Standard 3.5mm 3 pole coaxial output socket

Serves to supply AC signals and log-converted dc signals to external equipment.

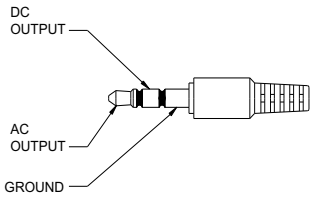
OUTPUTS: Two outputs can be accessed through 3.5mm stereo phone plug refer.

DC output: logarithmic signal. 10mV/dB

Impedance≤100Ω

AC output: approx. 0.65Vrms corresponding to each range step.

Impedance≈100Ω



⑩ calibration potentiometer

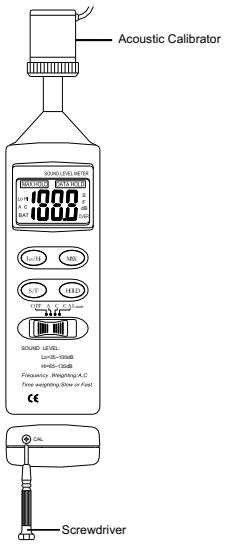
The calibration potentiometer can be adjusted clockwise or counterclockwise to standard 94.0dB.

○,11 Tripod mounting screw.

○,12 Battery Cover

V. Calibration procedures

Using a standard Acoustic Calibrator (94dB, 1kHz Sine wave)



(1) Make the following buttons and function switch settings.

Display: dB, A, Lo, F

Function: A-Weighting

Response Time: FAST

Level range: 35 to 100dB

Measurement mode: MAX Hold and Data Hold Mode function disable.

(2) Insert the microphone housing carefully into the insertion hole of the calibrator.

(3) Turn on the switch of calibrator (94dB @ 1kHz) and adjust the CAL potentiometer of the unit. The level display will indicate the desired level.

Our products are all well calibrated before shipment.

Recommended Recalibration cycle: 1 year.

VI. Measurement Preparation

(1) Battery loading

Remove the battery cover on the back and put in one 9V Battery.

(2) Battery Replacement

When the battery voltage drops below the operating voltage, mark “BAT” appears. If it appears, battery should be replaced with new one.

VII. Operating Precautions

(1) Wind blowing across the microphone would bring additional extraneous noise.
Once using the instrument in the presence of wind, it is a must to mount the windscreen to not pick up undesirable signals.

(2) To achieve more accurate measurement, use an extension cable to separate the Microphone from the main body so that the effect of unexpected sound reflection can be eliminated.

(3) Calibrate the instrument before operation if the instrument was not in use for a long time or operated at bad environment.

(4) Do not store or operate the instrument at high temperature and high humidity environment.

(5) Keep microphone dry and avoid severe vibration.

(6) Please take the battery and keep the instrument in low humidity environment. When not in use.

VIII. Measurement

(1) Open battery cover and install a 9-volt battery in the battery compartment.

(2) Turn on power and select the desired response Time and weighting. If the sound source consists of short bursts or only catching sound peak, set response to FAST. To measure average sound, use the slow setting.
Select A- weighting for general noise sound level and C-weighting for measuring sound level of acoustic material.

(3) Select desired Level

(4) Hold the instrument comfortably in hand or fix on tripod and point the microphone at the suspected noise source, the sound pressure level will be displayed.

(5) When MAX (maximum hold) mode is chosen. The instrument captures and holds the maximum noise level for a long period using any of the time weightings and ranges.

(6) When HOLD (data hold)mode is chosen.The hold function freezes the reading in the display. Press the HOLD button momentarily to activate or to exit the HOLD function

(7) Turn OFF the instrument and remove and remove battery when not in use.