

# AUTO TEST™

## Digital sound level meter



## **A. Precautions:**

Please read this operation manual carefully before using this equipment for correct operations. This equipment has been designed to meet the measurement requirement of Safety Engineers, Health, Industrial Safety offices and Sound Quality control in various environments.

## **B. Features:**

- 1) This unit was designed according to the IEC651 TYPE 2 & ANSI S 1 .4 TYPE 2 for sound level meters.
- 2) Instantaneous level measurement.
- 3) Measurement range: 30-130 decibel
- 4) With two equivalent weighted sound pressure levels, A and C.
- 5) Fast & Slow modes.
- 6) AC and DC signal output for frequency analyzer and level recorder, FFT analyzer, graphic recorder etc.

## **C. Specifications:**

- 1) Accuracy:  $\pm 1.5$  dB (under reference conditions)
- 2) Frequency range; 31.5KHz 8.5KHz
- 3) Linearity range: 50dB
- 4) Measuring level: 30 130 dBA, 35-130 dBC
- 5) Frequency weighting: . A, C
- 6) Digital display: 5 digits  
Resolution: 0.1dB
- 7) Bar graph; 50dB scale at 1 dB step for monitoring current sound pressure level display period: 50 mS
- 8) level ranges: 30-80 dB: 50-100 dB;  
60-110 dB; 80-130 dB;
- 9) Over range indicator:  
Under indicator.
- 10) AC output: 0.707 Vrms at FS output impedance approx 600 $\Omega$
- 11) DC output: 10 mV / dB output impedance approx 1000 $\Omega$
- 12) Time weighting: Fast, Slow
- 13) Microphone: 1/2 inch Electret Condenser microphone
- 14) Max: Maximum hold
- 15) Power supply: 1 \*9V alkaline cells or DC 9V adapter Power life: About 30 hrs (alkaline coils)

- 16) Self calibration time: 10 sec (every turn on)
- 17) Operating Temperature: 0°C to 40°C  
Operating Humidity: 10% to 80% RH
- 18) Storage Temperature: - 10°C to 60°C  
Storage Humidity: 10% to 70%RH
- 19) Dimensions: 265(L)\*72(W)\*35 (H) mm
- 20) Weight: 300g (including batteries)

#### D. Calibration Procedures:

Use a Standard Acoustic Calibrator.

- 1) Use the following settings:  
Display: SPL (dBA) Time  
Weighting: FAST  
Level range:  
60 to 110 dB / 80 to 130dB (depending on calibrator type)  
Measurement mode: MAX function disable
- 2) Insert the microphone carefully into the 1/2 inch hole of the Calibrator.
- 3) Turn on the Calibrator and adjust the Potentiometer inside the Battery compartment of the unit (shown in the diagram 1). The level of the unit (shown in figure 1). The level display will indicate the desired Level (94.0).

Recommended recalibration period: 1 year.

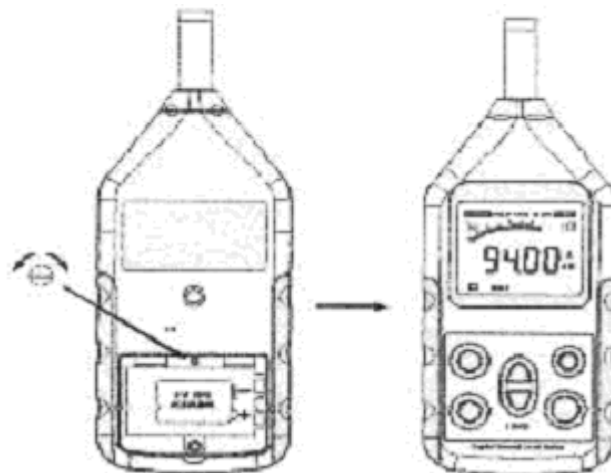
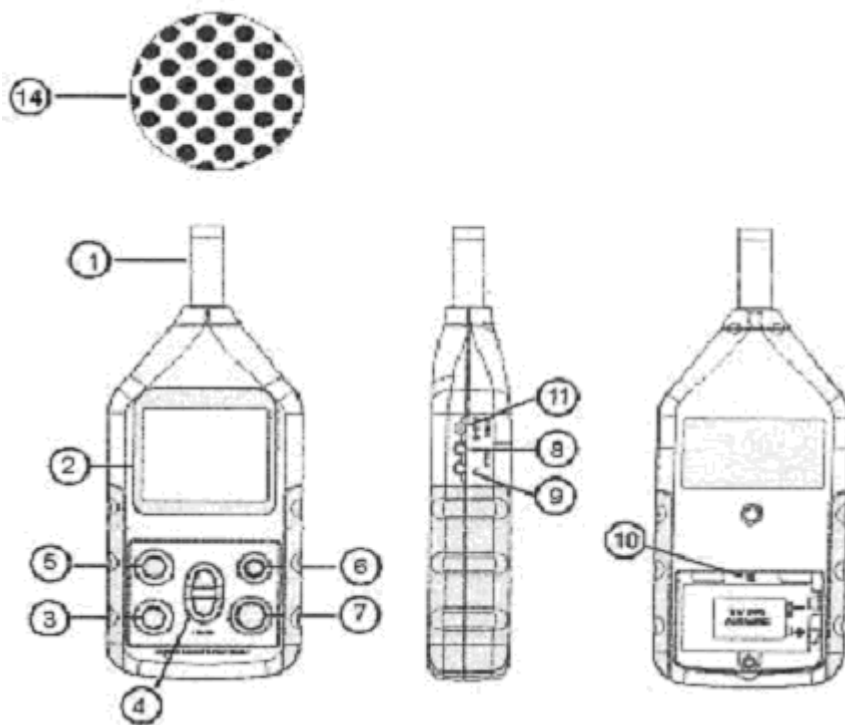


Figure 1.



**E. Name and Functions:**

- 1) Electric Condenser Microphone.
- 2) LCD Display.
- 3) Power switch
- 4) Level range control switch;  
 30dB—80dB;    50dB—100dB;  
 60dB—10dB;    80dB—130dB
- 5) Maximum value hold switch. (MAX)
- 6) Frequency weighting select switch.  
 A: A weighting for general sound level measurements.  
 C: C- weighting for checking the low frequency content of noise.
- 7) Time weighting select switch.  
 Fast: For normal measurements.  
 Slow: For checking average level of fluctuating noise.
- 8) AC output terminal: 0.707 Vrms Corresponding to each range step.
- 9) DC output terminal: output 10 mV/ dB
- 10) Calibration control
- 11) External DC 9V power supply terminal.
- 12) Battery Door.
- 13) Tripod mounting screw.
- 14) Windscreen

## F. LCD Display Description:

- 1) Level range.
- 2) Instantaneous sound pressure level.
- 3) Low battery mark.
- 4) Maximum value is held during measurement.
- 5) Measured value.
- 6) Measurement Unit.
- 7) Frequency weighting A/C.
- 8) Level range Bar graph.
- 9) Over Range Indicator.
- 10) Slow time weighting.
- 11) Fast time weighting.
- 12) Under Range Indicator.

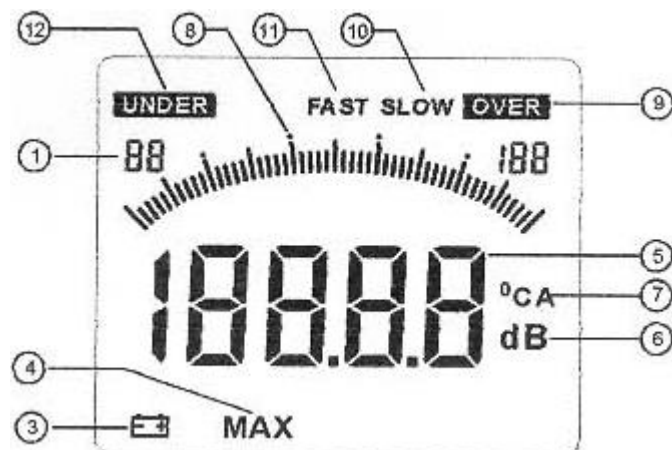

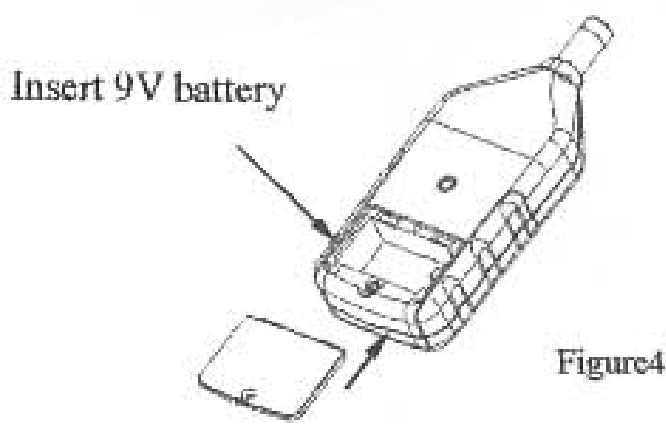


Figure 3

## G. Pre-operation:

- 1) Use a Screwdriver to open the battery door and install four 9V battery in the battery compartment.
- 2) Install battery door with Screwdriver.
- 3) When the battery voltage drops below the operating voltage, a symbol  appears, please replaced with a new one.
- 4) When the DC adapter is used, insert the plugs (3.5φ) of the adapter into the DC 9V connector on the side panel.



## H. Operation:

- 1) Turn on power
- 2) Select the desired response and weighting, also select desired range.
- 3) If weighting for general noise sound level, please select dBA.
- 4) If the sound source consists of short bursts, set response to FAST.  
To measure the average sound level, use the SLOW setting.
- 5) When the MAX mode is chosen the instrument will capture and hold the maximum noise level.

## I. Cautions

- 1) Do not operate the unit in an environment of high temperature and humidity.
- 2) Please take the battery out from the unit if not in use for any extended period of time.
- 3) When using the unit in the presence of wind, it is recommended to fit the windscreen to avoid undesired signals.
- 4) Operating Environmental condition:  
Humidity  $\leq 80\%RH$ ,  
Temperature from  $0^{\circ}C$  to  $40^{\circ}C$ .



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