

# SL-8850 OPERATION MANUAL



## Digital Sound Level Meter - SL-8850

**Congratulations** on your purchase of this **Digital Sound Level Meter**. Which is designed to meet the measuring requirement of noise abatement project, sound quality control, health, safety engineering at workshops, schools, hospitals, hotels, shopping centers, theatres, recording studios, offices, traffic, homes etc.

### Features

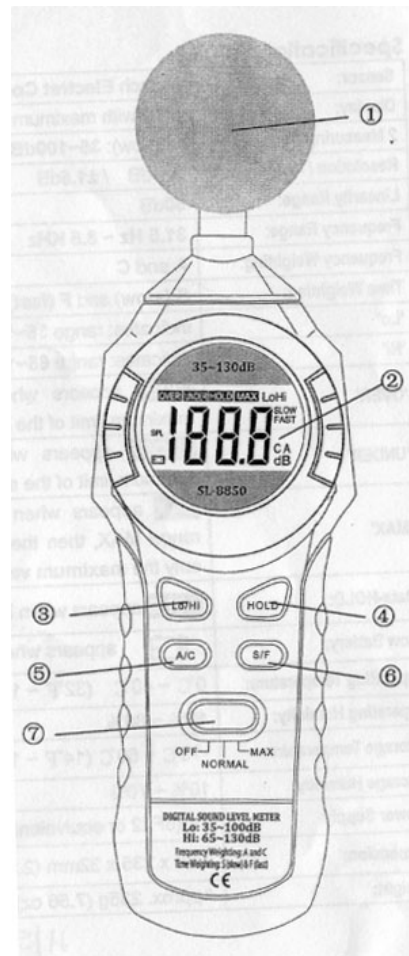
- Designed according to the IEC651 type 2 & ANSI S1.4 type 2 for sound meter
- Sound Pressure Level measuring function (**SPL**)
- 2 measuring ranges: **Lo** (low):35 - 100dB **Hi** (high): 65 - 130dB
- 2 equivalent weighted sound pressure levels **A** and **C**
- 2 dynamic characteristic modes : **S (slow)** and **F (fast)**
- Recording of **MAX** measuring value
- Data-**hold** function
- Low Power Indication
- **Secondary Plastic Injection** crafts adopted

### Specifications

<b>Sensor</b>	1/2 inch <b>Electret Condenser Microphone</b>
<b>Display</b>	<b>LCD</b> with maximum display <b>1999</b>
<b>2 measuring ranges</b>	<b>Lo</b> (low): <b>35 - 100dB</b> , <b>Hi</b> (high): <b>65 - 130dB</b>
<b>Resolution / Accuracy</b>	<b>0.1 dB / ±1.5 dB</b>
<b>Linearity Range</b>	<b>50dB</b>
<b>Frequency Range</b>	<b>31.5 Hz - 8.5 KHz</b>
<b>Frequency Weighting</b>	<b>A and C</b>
<b>Time Weighting</b>	<b>S (slow) and F (fast)</b>
<b>'Lo'</b>	Indicates: range <b>35 -100 dB</b> is selected
<b>'Hi'</b>	Indicates: range <b>65 -130 dB</b> is selected
<b>'OVER'</b>	<b>OVER</b> appears when actual value surpasses maximum limit on the selected measuring range
<b>'UNDER'</b>	<b>UNDER</b> appears when actual value is below minimum limit of the selected measuring range
<b>'MAX'</b>	<b>MAX</b> appears when slide switch is pushed to range MAX, then the meter dynamically displays only the <b>maximum value sensed</b>
<b>Data-HOLD</b>	<b>HOLD</b> appears when HOLD button is pressed
<b>Low Battery</b>	Appears when power gets weak
<b>Operating Temperature</b>	0°C - 40 °C (32° F - 104° F )
<b>Operating Humidity</b>	10% - 80%
<b>Storage Temperature</b>	-10 °C - 60 °C (14 ° F - 140 ° F)
<b>Storage Humidity</b>	10% - 70%
<b>Power supply</b>	9V (6F22 or equivalent) x 1
<b>Dimensions</b>	73.6 x 235 x 32mm (2.9' x 9.25" x 1.26")
<b>Weight</b>	Approx. 235g (7.56oz)

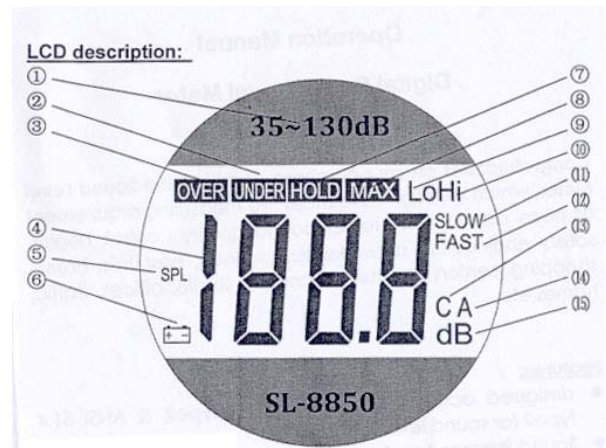
## Panel Description

1. Electret Condenser Microphone and foam windshield
2. LCD Display
3. Measuring Range Selection Button
4. Data-hold Button
5. Frequency weighting Selection Button
6. Time Weighting Selection Button
7. Function Selection Slide Switch



## LCD Description

1. Total Measuring Range
2. Symbol of UNDER range
3. Symbol of OVER range
4. Display of Measured Value
5. Symbol of Sound Pressure Level
6. Symbol of Low Battery
7. Symbol of Data-Hold
8. Symbol of MAX Measuring Function selected
9. Symbol of Range 35~100dB selected
10. Symbol of Range 65~130dB selected
11. Symbol of Time Weighting SLOW selected
12. Symbol of Time Weighting FAST selected
13. Symbol of Frequency Weighting C selected
14. Symbol of Frequency Weighting A selected
15. Unit of Sound Level



## Operation

### Measuring

1. Push the '**Function Selecting Slide Switch**' from position **OFF** to **NORMAL**, then the meter enters pre-set measuring status: range **Lo (35-100dB)**, frequency weighting **A** and time weighting **FAST**.  
**Note:** in case you want the meter to dynamically display only the maximum value sensed, please push the slide switch to position **MAX**.
2. Point the microphone towards the sound source to be measured.
3. Press the 3 Selecting Buttons '**Lo/Hi**', '**A/C**', '**S/F**' to select between
  - i. Measuring Range: **35-100dB and 65-130dB**
  - ii. Frequency Weighting: **A and C**
  - iii. Time Weighting: **SLOW and FAST**
4. Read measured sound level value on LCD display.  
**NOTE:**
  - a. Press **HOLD** button to freeze the measured value on LCD during measuring, **HOLD** appears on LCD.
  - b. During measuring **OVER** appears when actual value surpasses maximum limit of the selected measuring range.
  - c. During Measuring, **UNDER** appears when actual value is below minimum limit of the selected measuring range.
  - d. To measure sound level based on human hearing, please select frequency weighting **A**
  - e. To measure average sound level, please select time weighting **SLOW**
  - f. In case sound source consists of short bursts or the instantaneous sound level is wanted, please select time weighting **FAST**.
  - g. When measuring in strong winds (over10m/Second) use the supplied **Foam Windshield** on the microphone to avoid picking up wind noise.
5. Push the '**Function Selecting Slide Switch**' position to '**OFF**' when the measurements are completed.

### Calibration

The instrument should be calibrated using a standard **94dB/1000Hz** sound source such as the Castle GA601 as follows:

- {1} Open the battery compartment cover and select a suitable screwdriver to adjust the potentiometer on the PCB through the hole in the battery compartment.
- {2} Push the '**Function Selecting Slide Switch**' to position **NORMAL**.
- {3} Set the meter to: Measuring Range: **Hi(65-130dB)**  
Frequency Weighting: **A**  
Time Weighting: **FAST**
- 4) Insert the microphone into the cavity of the calibrator and operate the calibrator according to its instructions
- {5} Read the measured value on the LCD display, if the reading is not 94dB, adjust the value of the potentiometer with the screwdriver, until the reading reaches 94dB.
- {6} Close the battery compartment cover, then the meter is calibrated and ready for measuring.

## **Battery Replacement**

If the meter does not switch on or low battery symbol appears, replace the battery as follows:

- {1} remove the battery compartment cover with a suitable screwdriver.
- {2} take out the weak or dead 9v battery
- {3} install a new 9v battery
- {4} replace the battery compartment cover with the screwdriver

**Note:** to protect the environment always dispose of used batteries in a safe way as recommended by your Local Authority.

## **Maintenance**

- Do not operate the meter in high temperatures, high relative humidity or high altitude over 2000 feet.
- Always keep the meter clean and dry.
- Prevent the meter from dropping or violent handling.
- Take out the battery if the meter will not be used for an extended period of time.