

REED

Model ST-805

Sound Level Meter

Instruction Manual



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General Description

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, ANSI S1.4 type 2 for Sound Level Meters.

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 30 to 130dB at frequencies between 31.5 Hz and 8 kHz.
- Display with 0.1dB steps on a 4-digit LCD.
- Two equivalent weighted sound pressure levels, A and C.

Safety Information

Read the following safety information carefully before attempting to operate or service this meter. Use this meter only as specified in this manual; otherwise, its proper operation may be impaired.

Environmental Conditions

1. Altitude up to 2000 meters
2. Relatively humidity up to 90% R.H. max.
3. Ambient temperature: 0~40°C


Maintenance & Cleaning

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 instrument.

Safety Symbols

- Meter is protected throughout by double insulation or reinforced insulation.

When servicing, use only specified replacement parts.

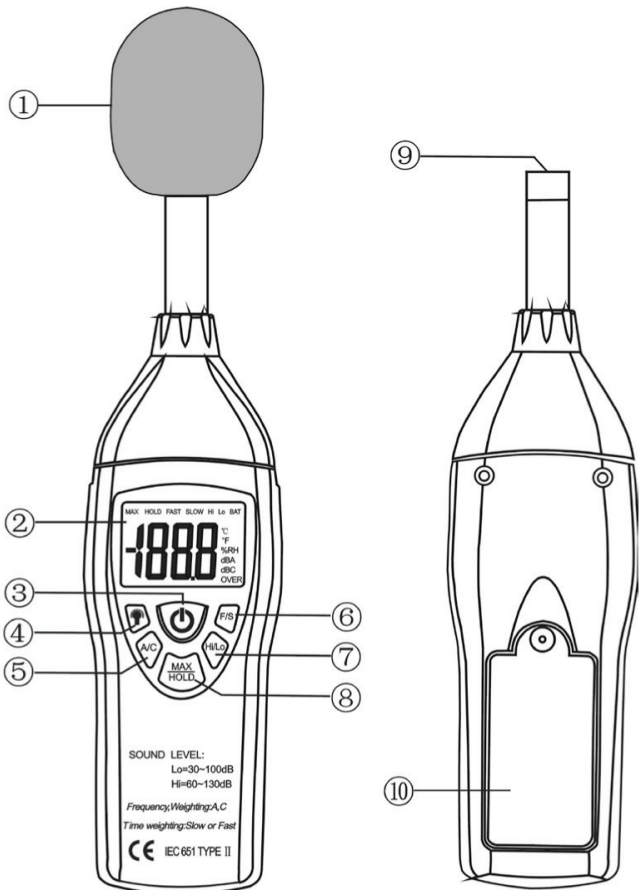
-  Comply with EMC

For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com.

Specifications

| | |
|------------------------|--|
| Standard Applied: | IEC651 type 2, ANSI S1.4 type 2 |
| Frequency Range: | 31.5Hz~8KHz |
| Measuring Level Range: | 30~130 dB |
| Resolution: | 0.1 dB |
| Accuracy: | ±1.5 dB (under reference conditions) |
| Frequency Weighting: | A & C |
| Time Weighting: | Fast: 125mS: Slow: 1 sec. |
| Level Ranges: | Lo: 30~100 dB; Hi: 60~130 dB |
| Display: | 4-digit LCD |
| Display Update: | 0.5 sec. |
| Alarm Function: | “OVER” is show when input is out of range |
| Maximum Hold: | Hold readings the Maximum Value, with decay < 1dB/3minutes |
| Microphone: | 1/2 inch electret condenser microphone |
| Calibration: | Electrical calibration with the internal oscillator (1kHz sine wave) |
| Auto Power Off: | Meter automatically shuts down after approx. 15 minutes of inactivity |
| Power Supply: | One 9V battery, 006P or IEC 6F22 or NEDA 1604 (included) |
| Battery Life: | About 50 hrs. (alkaline battery) |
| Operating Temperature: | 0 to 40°C (32 to 104°F) |
| Operating Humidity: | 10 to 90% RH |
| Storage Temperature: | -10 to 60°C (14 to 140°F) |
| Storage Humidity: | 10 to 75% RH |
| Dimensions: | 210(L) x 55(W) x 32(H) mm |
| Weight: | 230g (including battery) |
| Includes: | Batteries and carrying case |
| Optional Accessories: | Tripod (model BS-6) |

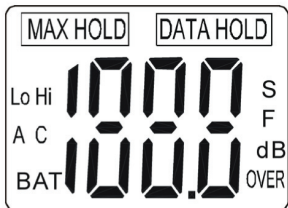
Instrument Description



1. Windscreen

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

2. Display



| SYMBOL | FUNCTION |
|--------|-----------------|
| LCD | 4-digits |
| MAX | Max. value hold |
| OVER | Over range |
| F | Fast response |
| S | Slow response |
| A | A-weighting |
| C | C-weighting |
| LO | Low range |
| HI | High range |
| BAT | Low battery |

3. Power ON/OFF Button

Turn the meter power ON/OFF 

4. Backlight Button

Turn the display backlight ON/OFF

5. A-Weighting/C-Weighting Select Button

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)

6. Time Weighting Select Button

F (Fast Response): For normal measurements (fast varying noise)

S (Slow Response): For checking average level of fluctuating noise

7. Level Range Select Button

LO: 30~100dB; **HI:** 60~130dB

When "OVER" is indicated, the meter automatically switches to the other measurement range.

8. **MAX/HOLD Button** **MAX/HOLD**

The MAX Hold position is used to measure the maximum level of sounds. The maximum measured level is updated continuously. Pressing the button a second time will release the maximum hold function and allow another measurement.

The Data HOLD function freezes the reading on the display.
Data HOLD Button: Press and hold the button for 2 seconds to turn the Data HOLD function on or off.

9. **Microphone**

1/2-inch electret condenser microphone

10. **Battery Cover**

Operating Precautions

1. Wind blowing across the microphone will bring additional extraneous noise. If using the instrument in the presence of wind, it is recommended to put the windscreen on the microphone so as not to pick up undesirable signals.
2. To achieve more accurate measurements, 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 has not been in use for a long period of time or was last operated under extreme conditions.
4. Do not store or operate the instrument in high temperature and high humidity environments.
5. Keep microphone dry and avoid severe vibrations.
6. When not in use, please take the battery out and keep the instrument in a low humidity environment.

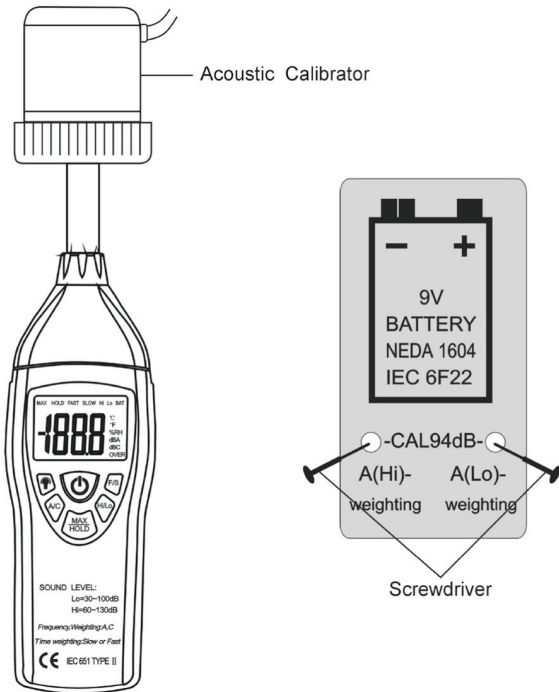
Measurement Procedures

1. 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.
2. Select desired level.
3. Hold the instrument comfortably in hand or fix on a tripod and point the microphone at the suspected noise source, the sound pressure level will be displayed.
4. 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.
5. 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.
6. Turn OFF the instrument and remove and remove battery when not in use.

Calibration Procedures

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

1. Make the following function switch settings.
Display: dB, A, Hi or Lo, F
Function: A-Weighting
Response Time: Fast
Level Range: 30 to 100dB (Lo) or 60 to 130dB (Hi)
Measurement Mode: MAX Hold and DATA Hold mode function disable.
2. Insert the microphone housing carefully into the insertion hole of the calibrator.
3. Open battery cover and remove the battery to adjust the CAL94dB potentiometer of the unit. The level display will indicate the desired level.



Battery Replacement

1. Battery Loading: Open the battery cover and install a 9-Volt battery in the battery compartment.
2. Battery Replacement: When the battery voltage drops below the operating voltage, "BAT" appears in the display and the existing battery should be replaced with a new one.

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