

User Manual



## SLM400 Digital Sound Level Meter



### ***Introduction***

Congratulations on your purchase of the SLM400 Digital Sound Level Meter. This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

## **Safety**

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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.

### **Environmental Conditions**

- ⑩ Altitude up to 2000 meters
- ⑩ Relative Humidity: 90% max.
- ⑩ Operating Temperature: 0 to 40°C (32 to 104°F)

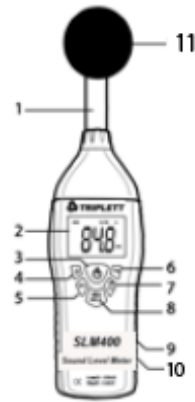
### **Maintenance and Cleaning**

- Repair or servicing not covered in this manual should only be performed by qualified personnel.
- Periodically wipe the case with a dry cloth. Do not use abrasives or solvents.

## ***Meter Description***

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1. Microphone
2. 4-digit LCD Display
3. ON-OFF button
4. LCD Backlight button
5. Frequency weighting selection button
6. Response time selection button
7. Range selector button
1. Max Hold / Data Hold selector button
2. Battery compartment on rear
10. Calibration pots in battery compartment
11. Windscreen




## ***Measurement Considerations***

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1. Wind blowing across the microphone increases the noise measurement. Use the supplied windscreen to cover the microphone when applicable.
2. Calibrate the instrument before each use if possible. Especially if the meter has not been used for a long period of time.
3. Do not store or operate the instrument in areas of high temperature or humidity.
4. Keep meter and microphone dry.
5. Avoid severe vibration.
6. Remove the battery when the meter is to be stored for long periods of time.
7. Min:sec or Hour: min Display

## **Operation**

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1. Power the meter by pressing the  power button. The meter will begin displaying sound level readings. If the LCD does not switch on, check the 9V battery located in the rear battery compartment.
1. Hold the meter in hand facing the microphone toward the source of the sound to be measured.
2. View the measurement on the meter's LCD. An indication of **OVER** means that the measurement is out of range. Toggle the 'Hi' (65 to 130dB) and 'Lo' (35 to 100dB) measurement ranges using the HI/LO button. For measurements in the 65 to 100dB region either range can be used.

### **'A' and 'C' Frequency Weighting**

Use the 'A/C' button to select 'A' or 'C' frequency weighting. With 'A' weighting selected, the frequency response of the meter is similar to the response of the human ear. 'A' weighting is commonly used for environmental or hearing conservation programs such as OSHA regulatory testing and noise ordinance law enforcement. 'C' weighting is a much flatter response and is suitable for the sound level analysis of machines, engines, etc.

Most noise measurements are performed using 'A' Weighting

### **and SLOW Response. 'FAST' and 'SLOW' Response Time**

Use the 'F/C' button to select FAST (125 ms) or SLOW (1 second) response time. Select FAST to capture noise peaks and noises that occur very quickly. Select the SLOW response to monitor a sound source that has a consistent noise level or to average quickly changing levels. Select Slow response for most applications.

#### **'Hi' and 'Lo' Range Selections**

Use the 'Hi/Lo' button to select the appropriate range. If the measurement is in the range of 35 to 100 dB, use the 'Lo' range. If the measurement is between 65 and 130dB, use the 'Hi' range. For measurements between 65 and 100dB, either range can be used. If the display flashes the OVER icon, press the range button to toggle the range.

#### **MAX HOLD**

In this mode, the meter only updates the LCD when a higher reading than the one presently on the display is detected. Select MAX HOLD by momentarily pressing the MAX HOLD button. The meter displays the MAX icon when in the MAX HOLD mode. Press the MAX HOLD button again to exit this mode (the MAX indicator will switch off).

#### **DATA HOLD**

To freeze a displayed reading, press and hold the MAX HOLD button until the MAX and HOLD display icons appear. To release the display and return to the normal operating mode, press and hold the MAX HOLD button until the MAX and HOLD icons switch off.

#### **Backlight button**

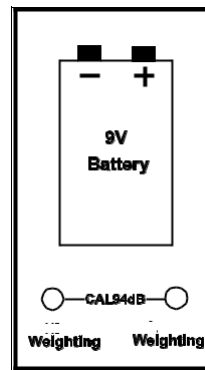
The LCD is equipped with backlighting for easier viewing, especially in dimly lit areas. Press the backlight button to turn the backlight on. Press again to turn the backlight off. The backlight does not have an automatic power down function; judicious use will conserve battery life.

## Calibration

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To calibrate the SLM400 an external calibrator that can provide a 94.0dB signal at 1 kHz is required in addition to a small screw-driver.

1. Open the battery compartment and locate the two calibration potentiometers behind the 9V battery (see diagram)
1. Put the meter in the 'C' weighting mode
2. Put the meter in the 'FAST' response mode
3. Place the SLM400 microphone into the calibrator. Set the calibrator to output a 1kHz sine wave @ 94dB
4. Put the meter in the LOW range
5. Adjust the 'C (Lo)' potentiometer for a display of 94.0 dB
6. Put the meter in the HIGH range
7. Adjust the 'C (HI)' potentiometer for a display of 94.0 dB



## Battery Replacement

When the low battery icon **BAT** appears on the LCD replace the 9V battery as soon as possible. The battery compartment cover is located on the rear of the meter. Remove the Phillips screw to loosen the cover. Slide the battery compartment cover off, change the battery, and replace the compartment cover.



You, as the end user, are legally bound (**Battery ordinance**) to return all used batteries and accumulators; **disposal in the household garbage is prohibited!**

You can hand over your used batteries / accumulators at collection points in your community or wherever batteries / accumulators are sold

## **Specifications**

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Display	4-digit (4000 count) backlit LCD
Display update rate	0.5 seconds
Microphone	0.5" Electret condensor
Measurement Bandwidth	31.5Hz to 8KHz
Dynamic range	65dB
Measurement Range	35 to 130dB (Low: 35 to 100; High: 65 to 130dB)
Frequency weighting	'A' and 'C' (selectable)
Accuracy / Resolution	± 1.5dB (under reference conditions) / 0.1dB
Standards	Meets Type 2 ANSI S1.4-1983, IEC 60651, EN60651
Maximum Hold decay time	<1dB / 3min
Response time	Fast: 125 milliseconds / Slow: 1 second
Calibration source required	1KHz sine wave @ 94dB
Power	9V Battery
Battery life	50 hours (typical); low battery indicator alerts user
Automatic power off	After approx. 15 minutes of inactivity
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/weight	240 x 68 x 25mm (9.45 x 2.68 x 1") /210g (6.75oz)
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**Warranty Information**

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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