PROFESSIONAL AUDIO EQUIPMENT

Sound Level Meter SLM700

User Manual

User Manual

Introduction

This section briefly describes the possibilities of the SLM700 Sound Level Meter.

The SLM700 is a stable, safe and reliable sound level meter. It is suitable to use in noise in noise control, quality control, health care and all different kinds of environmental noise environmental noise testing. For example: factory, road, family, musical instrument and all instrument and all kinds of places which need noise testing.

Unpacking Inspection

Open the package case and take out the meter. Check the following items carefully to see any missing or damaged part.

- SLM700 Sound Level Meter
- Microphone Windscreen
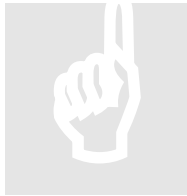- 4 x 1.5V Batteries (AA)
- Operation Manual

Safety Requirements

Always handle the unit with care.

This unit is not a toy. It should not be operated by children.

Do not open the unit (risk for electrical shock).

Always read the user manual before getting started.

CAUTION – SERVICING
This unit contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing unless you are qualified to do so.
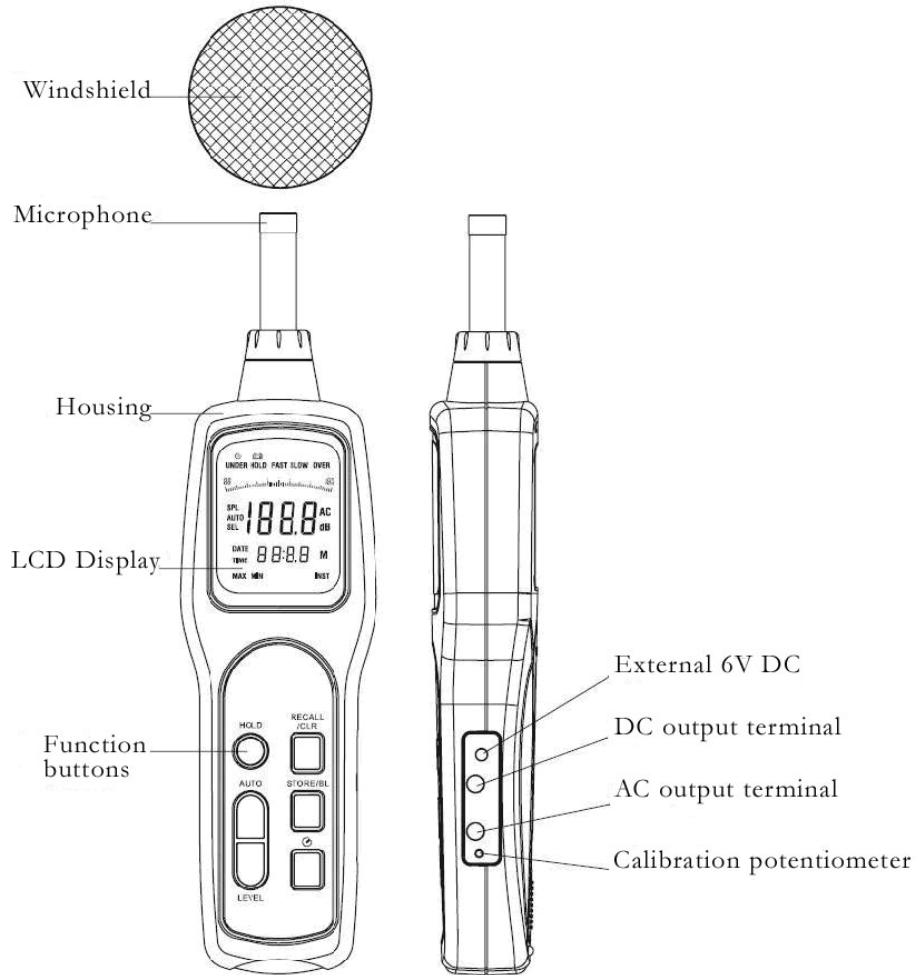
Note

This product conforms to the following European Standards: EN 50081-1: 1992, EN 50082-1: 1992,
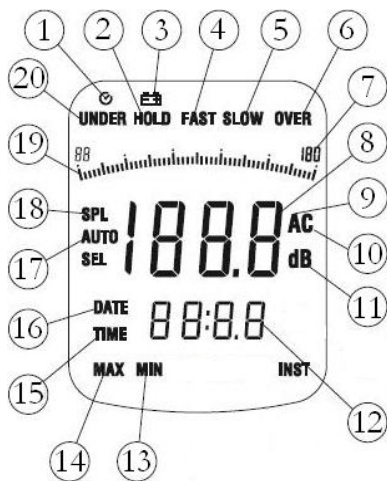
Rules For Safe Operation

- Don't use the meter if it is damaged, the LCD doesn't work, the case is damaged or removed or you consider that the meter does not work properly. Look for cracks or missing plastic.

- When using the meter, you must follow the instruction manual.

- The internal circuit of the meter shall not be altered.

- Replace the battery as soon as the battery indicator appears.

- Turn the meter off when it's not used, and take out the battery when not using for a long time.

- Don't use or store the meter in any environment of high temperature, humidity, explosive, inflammable and strong magnetic fields. The performance of the meter may deteriorate.

- Soft cloth and mild detergent should be used to clean the surface of the meter when servicing. No abrasive and solvent should be used, to prevent the surface of the meter from corrosion, damage and accidents.

- Regularly check the battery as it may leak when it has not been used for some time, replace the battery as soon as leaking appears. A leaking battery will damage the Meter.

The meter structure

Windshield

Microphone

Housing

LCD Display

Function buttons

External 6V DC

DC output terminal

AC output terminal

Calibration potentiometer

Display Symbols

1. Auto power off enabled
2. Data Hold is on
3. Low battery display
4. Fast response
5. Slow response
6. Over range
7. Range display
8. Sound value display
9. A-Weighting
10. C-Weighting
11. Decibel
12. Date and time display
13. Minimum value display
14. Maximum value display
15. Time display
16. Date display
17. Auto ranging enabled
18. Symbol of sound pressure level
19. Analogue bar graph display
20. Under range

Measurement operation and functional buttons

The table below gives all the information about the function buttons of the meter.

Button	Functions
HOLD ⏻	• Turn the meter ON and OFF. Press once to turn the meter on. Press and hold for 1 second to turn the meter off. • HOLD feature: During sound measurement, press once to freeze the measured value. Press the button again to resume to normal operation mode.
A/C	• During sound measurement, press the A/C button to select the "A" or "C" frequency weighting filter. When "A" is 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. The "C" frequency weighting filter has a much flatter response and is suitable for the sound level analysis of machines, engines, etc. Most sound measurements are performed using "A" weighting and SLOW response.
LEVEL	Press to select auto ranging or manual mode. • The meter is default in auto ranging mode • Press the LEVEL button to switch to manual ranging. Press the Up and Down buttons to toggle between Low and High range. Press and hold the level button to exit the manual ranging mode.
FAST/SLOW	• Press to select a FAST (125ms) or a SLOW (1s) 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 sound level or to measure the average value from quickly changing signals. The SLOW response mode is used for most applications. • Press and hold the FAST/SLOW button to enable display backlight. Press and hold the button again to disable the display backlight.

MAX/MIN	• Press the MAX/MIN button to display the minimum and maximum measured value. The value will only be updated when the measured value exceeds the present value on the display.
	o Press the MAX/MIN button and the MAX icon will be displayed. The displayed value is the highest value measured since the MAX mode was enabled.
	o Press the MAX/MIN button again and the MIN icon will be displayed. The displayed value is the lowest value measured since the MIN mode was enabled.
	o Press the MAX/MIN mode again to exit the MAX/MIN mode.
	• Press and hold the MAX/MIN button to enable or disable the auto power off mode. The meter will automatically power off after approximately 15 minutes of inactivity. An icon on the display indicates if the auto power off feature is activated.

Calibration

To ensure that every measurement remains reliable, every sound pressure meter needs to be calibrated regularly. The AUDAC SLC336 Sound Level Calibrator is the perfect companion for calibrating the SLM700.

Calibration process:
1. Turn the meter on
2. Put the meter in "A" weighting mode, FAST response mode and set the range to 60~110 dB.
3. Place the measurement microphone into the calibrators ½" sound source hole.
4. Turn the calibrator on, using the 94 dB @ 1kHz standard sound source.
5. Adjust the meter's CAL potentiometer located at it's side, until the LCD displays 94.0 dB.

Maintenance

This section provides basic maintenance information including battery replacement instructions.

⚠️**Warning**
Do not attempt to repair or service the SLM700 unless you are qualified to do and have the relevant calibration, performance, test and service information.
To avoid electrical shocks or damage to the meter, make sure that no water can get into the meter.

General service:

- Periodically wipe the case with damp cloth and mild detergent. Do not use chemical solvent

- Turn the meter off when not used, and take the batteries out when it's not used for a long time.

- Do not store the meter in places where humidity, high temperature, explosive or inflammable materials or strong magnetic fields are present.

Replacing the battery:

⚠️**Warning**
To avoid false measurements, replace the battery as soon as the battery indicator icon appears on the display.

To replace the batteries:

1. Turn the meter off.

2. Remove the screw from the battery compartment, and then take out the cover of the battery compartment.

3. Remove the batteries from the battery compartment.

4. Replace the battery with 4 new 1.5V AA batteries.

5. Replace the battery compartment cover, and place the screw again.

Function overview

Function	Range	Resolution	Accuracy	Remarks
A – Weighting and C – Weighting	30 ~80 dB	0.1 dB	± 1.5 dB	Frequency Response 31.5 ~ 8 kHz
	50 ~100 dB			
	60 ~110 dB			
	80 ~130 dB			
Sampling Rate	FAST			Sampling Time: 125ms
	SLOW			Sampling Time: 1s
Analogue bar graph	30 ~130 dB	1 dB		1 dB per scale Sampling frequency: 200Hz
Overloading				Over range display: OVER Under range display: UNDER
DC analogue signal output	Output impedance around 100 Ohm 10 mV / dB			Has input terminal
AC analogue signal output	Output impedance around 600Ohm 0.707 V / each scale			Has input terminal
Power (HOLD)				On and Off and data holding
Level (AUTO)				Selecting auto and manual ranging
A/C	A–Weighting and C–Weighting selection			
FAST/SLOW	Selection for fast and slow sampling rate and turn ON and OFF display backlight			
MAX/MIN	Selection of maximum and minimum value. Enable / Disable auto power off			

Features and specifications

General specifications

Display	3 ½ digits, 1999 maximum
Overloading	Under range displays **UNDER**
	Over range displays **OVER**
Battery deficiency	Change batteries as soon as the battery icon is displayed
Sampling rate	Fast speed: 125 milliseconds
	Slow speed: 1 second
Microphone	½" electret condenser
Drop test	1 meter pass
Battery	4 x 1.5V batteries (AA)
Battery life	Typical 20 hours continuous
Dimensions	273 x 69 x 39 mm
Weight	386 g including batteries

Environmental Requirements

For indoor use only

Altitude	2000m	
Temperature and humidity	Operating:	0°C ~ 30°C (≤80% R.H)
		30°C ~ 40°C (≤75% R.H)
		40°C ~ 50°C (≤45% R.H)
	Storage:	-20°C ~ 60°C (≤80% R.H)
Safety & Compliances	EN61326: 1997+A1:1998+A2:2001+A3	
	EN61672-1: 2002 Class 2	
	IEC60641: 1979 Type 2	
	ANSI S1.4: 1983 Type 2	
Certification	CE	

Accuracy Specifications

Operating temperature	23°C ± 5°C
Relative Humidity	≤80%

Personal Notes