



User Manual

Sound Level Meter Calibrator PCE-SC 10



User manuals in various languages (français, italiano, español, português, nederlands, türk, polski, русский, 中文) can be found by using our product search on: www.pce-instruments.com

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Contents

1	Safety notes	1
2	Introduction	2
3	Applications.....	2
4	Features	2
5	Functional block diagram	2
6	Information on calibration principle.....	3
7	Operation	3
8	Technical specifications	3
9	Delivery contents	3
10	Warranty.....	4
11	Disposal	4

1 Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, ...) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.
- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.

We expressly point to our general guarantee terms which can be found in our general terms of business.

If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.



2 Introduction

The PCE-SC 10 is a class 1 acoustic calibrator used for the calibration of microphones, sound pressure level (SPL) meters and other noise meters. The sound calibrator is suitable for use with type 1 or class I noise measuring instruments. This portable decibel (db) meter calibrator is easy to use in the field or in laboratories.

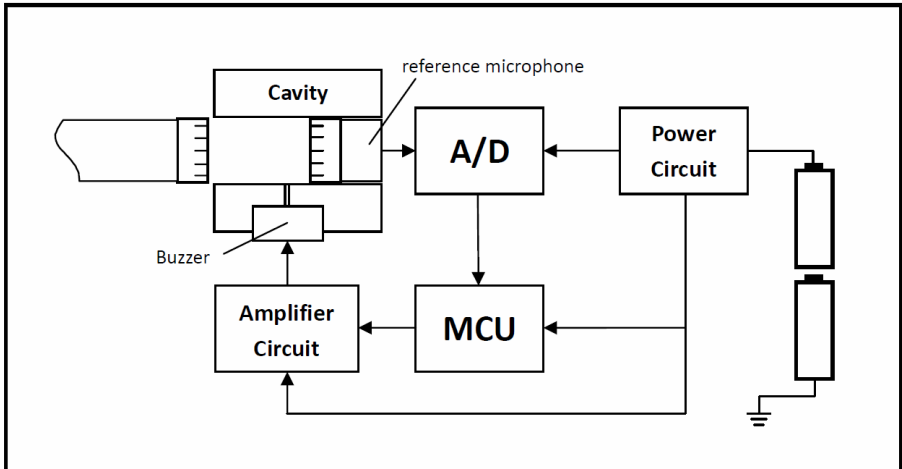
3 Applications

- Calibration of microphones, sound level meters and other sound measurement equipment
- Check the linearity of the equipment to be calibrated

4 Features

- Complies with IEC60942:2003 Class 1, ANSI S1.40-1984 and GB/T 15173-1994
- 1 kHz calibration frequency for all weighting networks
- Dual 94 & 114 dB sound pressure level outputs
- Calibration accuracy ± 0.3 dB
- Highly stable level and frequency
- Easy 2-key operation
- Fits 1/2" microphones and 1/4" microphones (with adaptor)
- Powered by 2xAA batteries and automatic power off to conserve battery life

5 Functional block diagram



6 Information on calibration principle

The PCE-SC 10 sound calibrator is a battery operated sound source for quick and direct calibration of sound level meters and other sound measuring systems. It fits 1/2" microphones and 1/4" microphones (with adaptors). The calibration frequency is 1000 Hz, which is the reference frequency for the standardized international weighting networks. That enables you to use the calibrator for calibrating sound equipment with A, B, C, D weighting filters and linear. The calibration pressure is 94 ± 0.3 dB (1 Pa) and 114 ± 0.3 dB (10 Pa). The PCE-SC 10 is equipped with a feed-back arrangement to ensure a highly stable sound pressure level. The feed-back loop contains a reference microphone, a sound source and control circuit. The reference microphone has passed a long-term aging test and has proved to be extremely stable. The feed-back control circuit can adjust for changes in load volume, temperature, humidity and atmospheric pressure. The calibrator gives a continuous sound pressure level when fitted onto a microphone and detects when the microphone is removed from the cavity and automatically switched off, thereby extending the battery life. When the ON/OFF light flashes, this means that the battery voltage is low. If the device stops working continuously, the batteries must be replaced.

7 Operation

- Pull down the battery compartment cover and insert the batteries. Make sure the polarity is correct.
- Switch on the calibrator as well as the device to be calibrated (On / off key). Set either 94 or 114 dB, using the change key.
- Place the aperture of the calibrator on the microphone (use the adaptor if applicable).
- A value now appears in the display of the sound level meter. When this value has stabilised, turn the calibration screw to adjust the value accordingly.

8 Technical specifications

Frequency	1 kHz / ± 0.5 %
Sound pressure levels	94 dB and 114 dB
Accuracy	± 0.3 dB
Sound distortion	<2 %
Stabilization time	<10 s
Microphone aperture	1/2" and 1/4" according to IEC 61094-4
Operating conditions	-10 ... +50 °C (+10 ... +122 °F) 10 ... 90 % RH
Power supply	2 x 1.5 V AA batteries (LR6)
Dimensions	75 x 70 x 46 mm (2.96 x 2.76 x 1.82")
Weight	316 g (0.7 lb)

9 Delivery contents

- 1 x sound calibrator PCE-SC 10
- 2 x 1.5 V AA battery (LR6)
- 1 x adaptor



10 Warranty

You can read our warranty terms in our General Business Terms which you can find here: <https://www.pce-instruments.com/english/terms>.

11 Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste. They must be given to collection points designed for that purpose.

In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.

For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.



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