

User Manual



XCA106 Sound Calibrator

IEC 60942-2017 Class 2

CE RoSH

MicW Audio, a brand of BSWA Technology Co., Ltd.

XCA106 User Manual

ZKXY-III-C021-04-P0058

v1.0

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The specification of product is subject to changes without notice

www.MicW-audio.com

Mar. 2025

Change History

Version	Date	Changes	Handle by
1.0	2025.03.03	Initial version.	Qiu Chao

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1. Introduction

1.1 General Description

The **XCA106** sound calibrator is used for calibrating sound level meters and other sound measurement equipment. It provides an output level of 94.0 dB at a frequency of 1 kHz. It is designed and tested according to IEC 60942-2017 standard. The accuracy has been calibrated to a reference traceable to the National Institute of Metrology (NIM), China.



1.2 Applications

- ✓ Microphone calibrations
- ✓ Sound level meter calibrations
- ✓ Other sound measurement equipment calibrations

1.3 Features

- ✓ Precision sound level calibrator complied with IEC 60942-2017 Class 2
- ✓ Output levels: 94.0 dB
- ✓ Output frequency: 1 kHz
- ✓ Internal 9V battery for portable operation
- ✓ ½" microphones fit directly in the calibrator coupler. Adapter for ¼" microphones is included in the delivery.
- ✓ Automatic compensation for ambient air pressure, temperature and humidity using built-in sensors
- ✓ Automatic shut off when battery is too low

1.4 Packing List

No.	Item	Descriptions
1	XCA106	Sound Calibrator
2	User Manual	User Manual of XCA106
3	Certificate of Calibration	Certificate of Factory Calibration
4	Standard Adapter	Used to 1/4" Microphones Calibration
5	Paper Packaging Box	Including Sponge

1.5 Specifications

XCA106	
Standard	IEC 60942-2017, Class 2
Output level	94.0 ± 0.3dB
Output frequency	1 kHz ±1.0%
Total Harmonic distortion	≤3%
Battery specification	9V, 6F22/6LR61 square battery
Auto switch off time	100 seconds
Level stabilizing time	<10 seconds
Temperature range	SPL variation < ± 0.3 dB over the range -10 °C ~ +50 °C
Humidity range	SPL variation < ± 0.3 dB over the range 10% to 90%
Air pressure range	SPL variation < ± 0.3 dB over the range 65kPa ~ 108kPa
Product external size (mm)	Φ42× 99
Weight	280 g (nett), 443 g (including packaging)
Packing box size (mm)	W140×H77×D105

2. Using the XCA106 Calibrator

2.1 Installing the Battery

The **XCA106** uses a 9V, 6F22/6LR61 square battery. We recommend that you use an alkaline battery to extend the running time of your calibrator.

Follow the steps below to install the battery (as shown in the following pictures):

Step 1 Turn counterclockwise to open the silver metal rear cover.



Step 2 Gently pull the battery connector clip sufficiently outside the interior to permit it to be snapped onto the battery terminals. Please pay attention to the positive and negative poles.



Step 3 Tuck the battery, with the battery connector clip attached, into the battery compartment and close the cover.



2.2 Microphone Calibration

The **XCA106** provides a nominal tone of 1kHz, which requires no weighting corrections when used with sound level meters utilizing A, B, C or Z (Flat) frequency weighting.

Follow the steps below to calibrate microphones (as shown in the following pictures):

Step 1 Insert the proper microphone adapter fully into the calibrator. Make sure it fits snugly.

Step 2 Insert the microphone fully into the adapter. Make sure it fits snugly.

Step 3 Press the button on the bottom panel. The calibrator will operate for about 100 seconds.



Step 1&2



Step 3

When the battery is low, the sound from the calibrator stops shortly after pressing the button. The battery needs to be replaced.

2.3 Environmental Precautions

While the XCA106 will perform normally under a wide variety of gradually changing environmental conditions, some precautions should be taken when sudden changes occur:

- ✓ The temperature and ambient pressure of the XCA106 should be stable. If the temperature and pressure changes suddenly, provide a stabilization time of at least 10 minutes. This will ensure that the temperature and pressure compensation sensors are at the same temperature and pressure as the rest of the unit.
- ✓ While humidity will not affect the XCA106, avoid condensing moisture. Also, avoid environments over 90% relative humidity because condensation can easily take place.

2.4 Calibrating the Calibrator

Before leaving the factory, the XCA106 calibrated in a controlled laboratory environment using traceable calibration equipment. It is recommended that the XCA106 calibrator should be recalibrated at least annually by BSWA or an acoustic test laboratory qualified to perform calibration.

3. Maintenance and Warranty

3.1 Maintenance

- ✓ When not used for a long time, the battery should be taken out.
- ✓ Do not disassemble the instrument except for replacing the battery.

3.2 Warranty

The XCA106 is made of components from our proven standard portfolio and are all manufactured of high-quality material and branded parts that were chosen and processed to ensure life-long stability and robustness. The warranty for XCA 106 is 24 months.

The warranty does not cover products that are damaged due to negligent use, an incorrect power supply, or an incorrect connection to the equipment.

3.3 Contacts

Please do not hesitate to contact us for any issue:

Customer Service	+86-10-51285118	info@bswa-tech.com
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Sales Service:	Please visit BSWA website:	www.bswa-tech.com

End

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