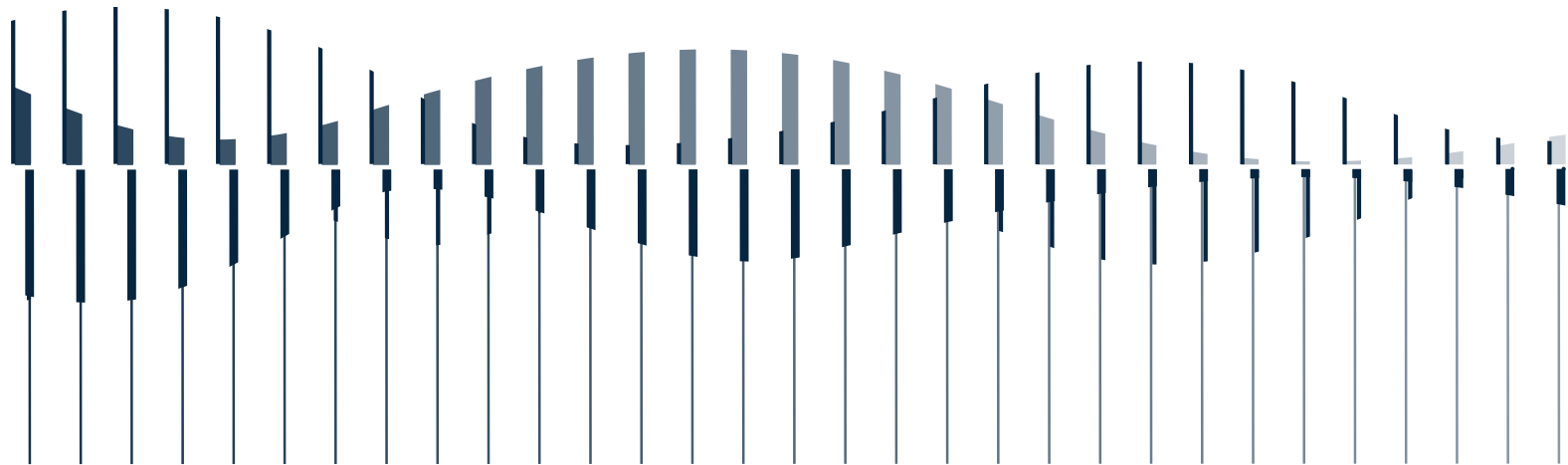




# Instruction Manual

GRAS 48LA and 48LX-1 UTP

Level and Frequency Calibration



## Revision History

Revision	Date	Description
1	2 November 2020	First edition



Do not touch the diaphragm

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## Introduction

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Proper calibration requires the use of dedicated calibration equipment in a controlled environment, i.e. a laboratory or similar. For this purpose, we have developed two dedicated adapters

- RA4801 Adapter for sensitivity calibration of 48LA/48LX-1.
- RA4802 Actuator for frequency calibration of 48LA/48LX-1.

The RA4801 can be used with a pistonphone such as the GRAS 42AP Intelligent Pistonphone or the GRAS 42AA Pistonphone.

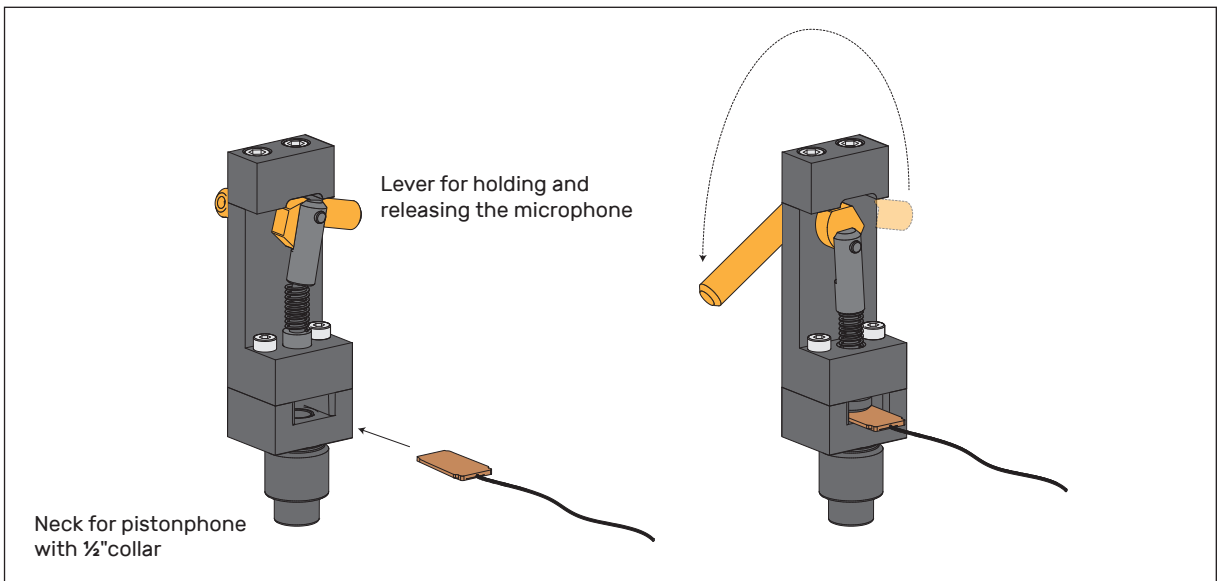
The RA4802 is an electrostatic actuator for frequency calibration, integrated in a stand with a mechanism for holding and locking the microphone during calibration.

The RA4802 requires connection to a proper supply and signal source. For this purpose, we recommend microphone calibration system, such as the GRAS 90CA Microphone Calibration System which offers all the hardware and software required for proper laboratory calibration.

For further information, visit [www.grasacoustics.com/90CA](http://www.grasacoustics.com/90CA)

## Sensitivity Calibration

Before calibration, the microphone must be connected to the analyzer to warm up. About three minutes are required.



**Fig. 1.** Mounting a UTP microphone in the RA4801 Adapter for sensitivity calibration of 48LA/48LX-1.

1. Insert the neck into the pistonphone's collar and tighten the collar.
2. While holding the pistonphone-adapter assembly at the top with one hand, insert the microphone into the slot, with the backside turned upwards.
3. Turn the lever to lock the microphone.
4. Turn on the pistonphone.

### Correction Factor (Pistonphone)

Frequency	Correction Factor	Accuracy
250 Hz	0 dB	± 0.2 dB

### Calibration with the 42AG Multifunction Sound Calibrator

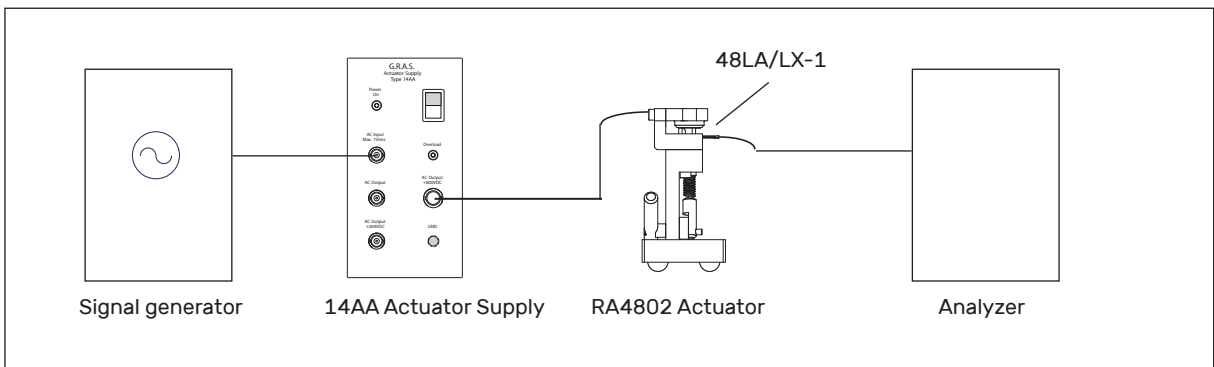
The procedure for using a 42AG is the same as described for a pistonphone.

### Correction Factors

Frequency	Correction Factor	Accuracy
250 Hz	-0.3 dB	± 0.2 dB
1 kHz	-1.0 dB	± 0.2 dB

## Frequency Calibration

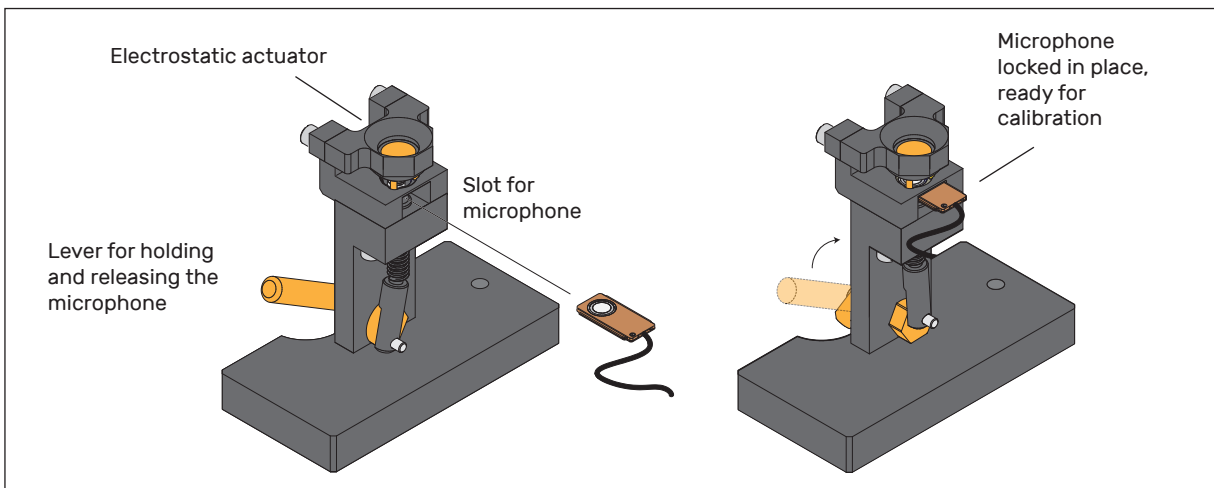
For frequency calibration, a setup like the one shown in Fig. 2 is needed, we recommend a complete microphone calibration system like the GRAS 90CA Microphone Calibration System.



**Fig. 2.** Block diagram of a setup for frequency calibration

## Procedure

When the calibration system and microphone are connected, proceed as described below.



**Fig. 3.** The RA4802 Actuator for frequency calibration of 48LA/48LX-1.

1. With the RA4802 in the open position, place the microphone with the diaphragm facing upwards in the slot as shown above.
2. Turn the lever to lock the microphone in place.

You are now ready to perform the calibration.

## Warranty, Service and Repair

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### Warranty, Service and Repairs

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

Further information about warranty and our repair service can be found at

[www.grasacoustics.com/repair-center](http://www.grasacoustics.com/repair-center)

Manufactured to conform with:

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93/68/EEC



WEEE directive:  
2002/96/EC



RoHS directive:  
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