

# CENTER® 327

## Sound Level Calibrator



### Instruction Manual

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### CENTER TECHNOLOGY CORP.

4 / F NO. 415, Jung-Jeng Rd., 238 Shu-Lin, Taipei, Taiwan  
 TEL : 886-2-26763926 E-Mail : center@centertek.com  
 FAX : 886-2-26763925 http : // www.centertek.com

327-00

**CAUTION**

Caution should be taken to avoid or minimize any damage to the instrument. The instrument should be stored in a dry, clean, and dust-free environment. The instrument should be handled with care to avoid damage to the instrument.

## 1. Safety Information

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.

### Environment Conditions

Altitude up to 2000 meters  
Relative humidity 90% max.  
Operation Ambient 0 to 40°C

### Maintenance & Clearing

Repairs 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 on this instrument.

### Safety symbols

**CE** Comply with EMC  
When servicing, use only specified replacement parts.

## 2. Description

Sound level calibrator is used to calibrate sound level meters and other sound measurement equipment. You can calibrate 1" diameter microphones directly and 1/2" microphones using 1/2" adaptor supplied with the calibrator. With available adaptors, you can calibrate other microphones and instruments.

## 3. Features

Conforms to ANSI S1.4-1984 and IEC 60942-2003 Class 2.  
94 dB sound calibrator at 125Hz and 250Hz.  
Fit 1" and 1/2" diameter microphone.

## 4. Specifications

### Output sound pressure levels:

94dB re 20 uPa under reference conditions

**Output frequency:** 125Hz +/- 2% and 250Hz +/- 2%

### Reference conditions:

Temperature: 23°C (74°F)

Relative humidity: 50%

Atmospheric pressure: 1013hpa

### Influence of ambient conditions:

Temperature coefficient: 0.005dB/°C

Humidity coefficient: 0.005dB/%RH

**Total Harmonic Distortion (THD):** Less than 3%

**Accuracy of sound pressure level:** +/- 0.5dB

**Stabilisation time:** 5 sec.

**Power:** one 9V battery 006P or IEC 6F22 or NEDA 1604

**Battery life:** approx. 40 hours. (Alkaline Battery)

### Battery test:

Internal circuitry checks condition of battery continuously. Calibrator will not be operated when green LED turns to red LED, which means that battery voltage falls below acceptable range.

**Dimensions:** 113(L)X63(W)X44(H)mm  
4.4(L)X2.4(W)X1.7(H)inch

**Weight:** approx. 170g(including battery)

### Ambient conditions:

0 - 40°C (32 - 140°F), 10 - 90%RH, 650 - 1080hpa

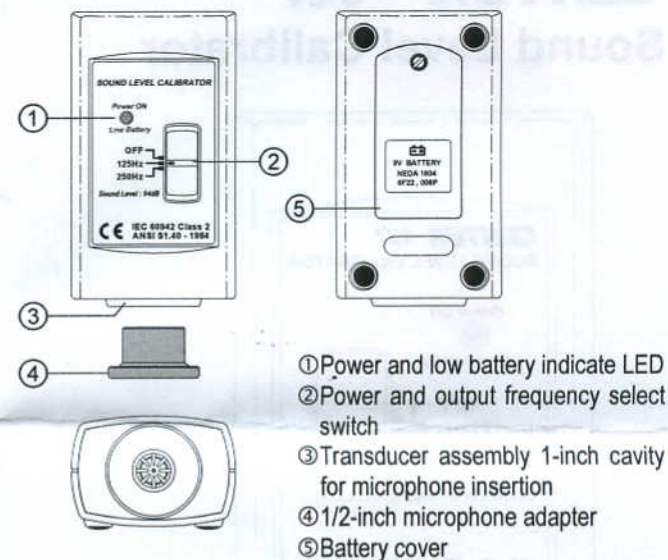
### Storage temperature & humidity:

-10 - 50°C (14 - 122°F), 0 - 70%RH

### Accessories:

Instruction manual, carrying case, 9V battery, 1/2" microphone adapter.

## 5. Nomenclature and Functions



- ① Power and low battery indicate LED
- ② Power and output frequency select switch
- ③ Transducer assembly 1-inch cavity for microphone insertion
- ④ 1/2-inch microphone adapter
- ⑤ Battery cover

## 6. Operating Preparation

1. Remove battery cover and install a 9V battery in the battery Compartment.

2. To quickly check the operation of the sound level calibrator Before using it, proceed as follows:

(a) Turn the power switch from OFF to the 94dB position. The user can start to operate it when LED indicates the green light. If no, please replace the battery.

(b) Change the switch 125Hz or 250Hz, you can calibrate in noisy environments and check the frequency response.

## 7. Calibration Procedure

(1) The cavity of the calibrator will accommodate 1-inch microphone.

(2) When the calibration is performed to a instrument with 1/2-inch microphone, the 1/2-inch microphone adaptor will have to be inserted by gently pushing it into the cavity till the end.

(3) Place the sound level calibrator over the microphone of the sound measuring instrument being calibrated.

(4) On the instrument under test, set the level range control to the range having 100dB as its upper limit if 94dB was selected on the sound level calibrator. The instrument may be set to FAST or SLOW response.

(5) Read the level on the instrument under test. Sound level meter will display different reading after selecting different Frequency weighting, refer to the table below.

Nominal frequency	Frequency weightings			Tolerance limits(dB)	
	LA	Lc	LP	Class 1	Class 2
1000Hz	94.0	94.0	94.0	±1.1	±1.4
250Hz	85.4	94.0	94.0	±1.4	±1.9
125Hz	77.9	93.8	94.0	±1.5	±2.0

(6) When the calibrator is not in operation, please switch OFF the power to save the battery.

### ※ CAUTION

Ambient sources of noise or vibration can cause a false calibration indication, this can be avoided by ensuring surrounds noise/vibration level is kept at lower than 60 dBA level.