CRYSOUND

CRY2831

Sound Level Meter

User Manual

Warranty Statement

We proudly offer a two-year warranty on the CRY2831 Sound Level Meter device, ensuring it meets the highest standards of quality and performance. This warranty covers defects in materials and workmanship under normal use.

Coverage Details:

- Warranty Period: Two year from the date of purchase.
- What's Covered: Defects in materials or workmanship that occur under normal use.
- What's Not Covered: Damage caused by misuse, unauthorized modifications, accidents, or external factors.

To request a warranty service, please contact our customer support team with your proof of purchase. We will repair or replace the device at our discretion.

Contact us

Hangzhou Headquarters

Tel: +86-571-88225128

E-mail: info@crysound.com

Add: No. 10 Xianqiao Rd, Yuhang Dist, Hangzhou, China

Web: www.crysound.com

U.S. Office

Add: 515 S Fry Rd, Suite A-221, Katy, TX 77450, USA

Tel: +1-877-215-7752

Safety Use Instructions

To prevent possible fire or personal injury:

- Please read the contents of this safety notice carefully before using the product.
- Use the product only for its intended purpose.
- Unauthorized opening of the unit will void the warranty.Contact CRYSOUND for more information.
- Stop using the device if it malfunctions or heats up abnormally.
- Please contact the manufacturer for equipment repair work.
- Do not store the equipment near heat sources, flames or in a hot environment.
- If the storage time is longer than 1 month, please store the product at an ambient temperature of less than 40℃ / 140℉.

Catalog

1 Introduction

1.1 About This Manual

This user manual describes the CRY2831 Sound Level Meter and is divided into the following sections:

- Introduction
- Technical Specifications
- Instructions For Use
- Appendix

1.2 About the CRY2831

CRY2831 sound level meter meets the stringent requirements of Class 2 ensuring accurate and reliable acoustic measurements.

The CRY2831's design balances esthetics and ergonomics. They feature a 128 × 64 LCD display and simple ergonomic controls.

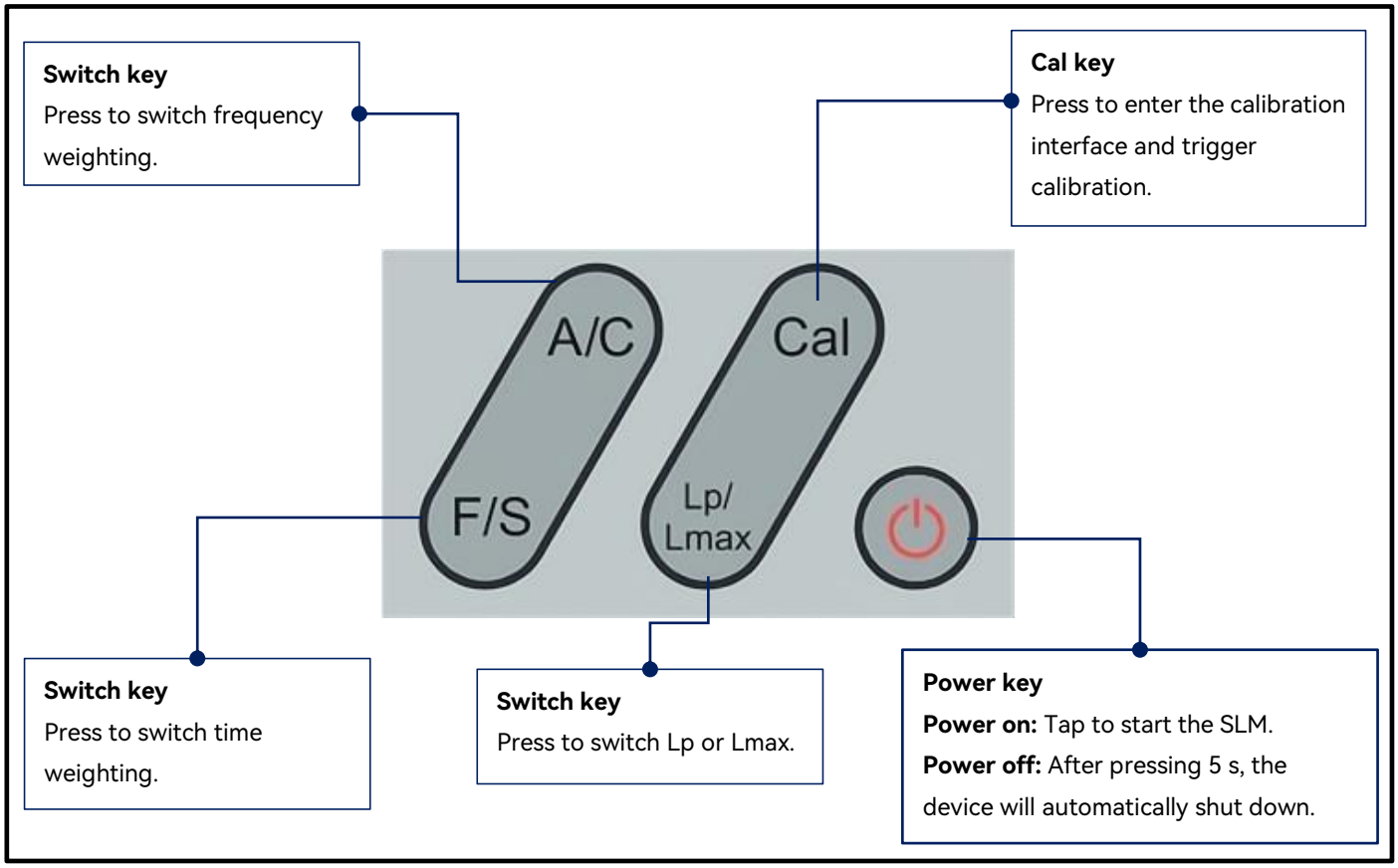
2 Technical Specifications

Technical Specifications

Type	**CRY2831**
Microphone	CRY321 (-32±2 dBV/Pa)
Pre-amplifier	CRY2830PA
Linear Range	29-138 dBA
Time Weighting	F, S
Frequency Weighting	A, C, Z
Sampling Rate	48k Hz
A/D Resolution	24 - bit
Frequency Range	20 Hz - 12.5k Hz
Applicable Standards	IEC 61672-1:2013
Accuracy	Class 2
Measuring Parameter	Lp, Lmax
Display	128 × 64 LCD Display
Battery	4 × AA
Operating Time	24 hours
Interface	AC/DC
Reference Level	94 dB @ 1k Hz / 114 dB @ 1k Hz
Calibration	Sound Calibrator Class 1 or Class 2

Operating Temperature Range	-10 to +50 ℃
Humidity Range	≤ 90% RH
Weight	300 g
Size	L × W × H = 249 × 76 × 30 mm
Operation	Button

3 Instructions For Use



3.1 Preparations

1) Check whether the microphone and the preamplifier are properly installed.

2) Check whether the battery is sufficiently charged.

3) If necessary, use a sound calibrator to calibrate the sound level meter before using.

4) The sound level meter should be regularly (e.g., once a year) sent to a calibration department for verification to ensure its accuracy.

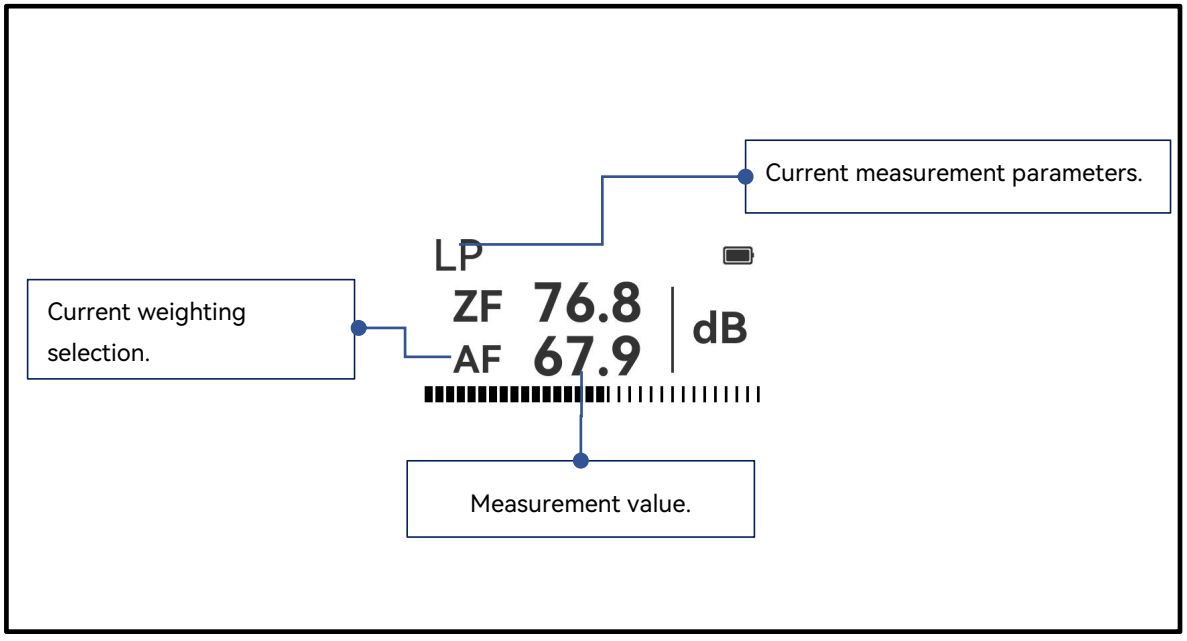
3.2 Power On

1) Before official use, install four new AA batteries to ensure the device operates normally during measurements.

2) Press the power button for 1 to 2 seconds. The screen will then display the measurement main interface.

3.3 Main Interface

Users can switch the weighting selection and measurement parameters using the buttons.



When switched to “Lmax”, the test starts automatically, and the interface displays the maximum measurement value from the start of the test to the present.

3.4 Calibration

Users can click "Cal" to enter the calibration interface, which displays the current microphone sensitivity and calibration sound pressure level of the device.

Open the calibrator and insert the device into the calibrator's sound chamber. Once the reading stabilizes, press the "Cal" button to start the calibration. The device will return the calibration results after 5 seconds.

To exit the calibration interface, press the "Power" button to return to the main measurement screen.

The image is a diagram showing the insertion of the calibrator.

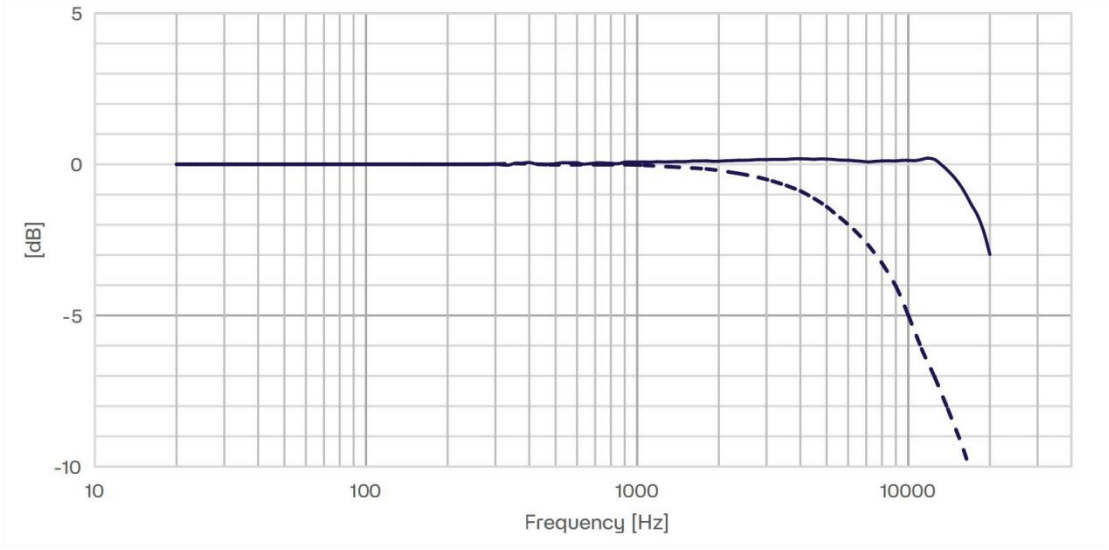
3.5 Backlight Adjustment

The user can adjust the backlight brightness using key combinations. Pressing the A/C and Cal keys simultaneously will increase the backlight brightness, while pressing the F/S and Cal keys simultaneously will decrease the backlight brightness.

Appendix A: Table of Measured Values

Measured Values	
Lp	Sound pressure level
Lmax	Maximum sound level

Appendix B: CRY321 Typical Frequency Response (0 ° Incidence Angle)



Appendix C: AC / DC Output

The CRY2831 outputs an AC signal from the left channel and a DC signal from the right channel through the 3.5 mm headphone jack at the bottom.

AC Output: The device will output a 1k Hz alternating current signal based on the current LAF value, which can be used for sound pressure level indication.

AC Signal Conversion: When LAF < 100 dB, the device outputs an amplitude of 446.7 mV/Pa. When LAF > 100 dB, the amplitude automatically switches to 4.47 mV/Pa.

DC Output: The device will output a direct current signal based on the current LAF value, which can also be used for sound pressure level indication.

DC Signal Conversion: The conversion is 20 mV/dB, corresponding to a direct current signal of 0.64 V to 2.82 V for 29 to 138 dBA.

Note: When using the DC output, please ensure that the input impedance of the subsequent stage is ≥ 10 kΩ to avoid excessive load on the DAC, which could affect the signal output.