

# **STANDALONE SOUND PRESSURE LEVEL MEASUREMENT PACKAGE**

ANL-930

ENV-269

USER'S MANUAL

**DOC-315**

**Rev. 1.0**

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notes

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## CHAPTER 1 | INTRODUCTION

The ANL-930 Standalone Sound Pressure Level (SPL) Measurement Package offers a level of stimulus verification and calibration unavailable with other sound level meters or sound measurement systems.

The ANL-930 SPL Meter is portable and offers the convenience of having a Sound Pressure Level Measurement solution untethered from a computer or power source due to its onboard processor and rechargeable battery. The ENV-269 Microphone with Positioning Jig ensures consistent placement and uniform calibration across multiple chambers.

The ANL-930's display provides detailed measurements of either noise or pure tone signals in a convenient, cost-effective, and accurate approach to sound pressure level measurement.

*Figure 1.1 – ANL-930 - Standalone Sound Pressure Level Measurement Package*

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*Figure 1.2 – Included 6V DC Power Adapter and \*18650 3.7v lithium-ion Rechargeable battery*

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**\*NOTE: Battery included in domestic orders only.**

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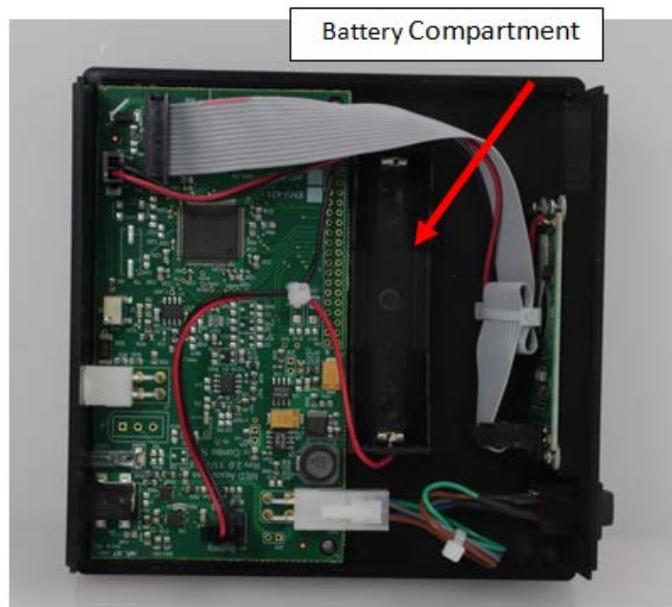
## CHAPTER 2 | POWER

The ANL-930 can be operated via the included 6V DC Power Adapter and/or the 18650 3.7v lithium-ion Rechargeable battery. The ANL-930 can be used via the 6V DC Power Adapter while simultaneously charging the 18650 3.7v lithium-ion Rechargeable battery, using pass-through technology.

### Installing/Replacing the Battery

The ENV-421 battery is designed to last the lifetime of the unit, but is replaceable if needed. Battery type 18650 3.7v lithium-ion is required when replacing the rechargeable battery.

*Figure 2.1 – Battery Compartment (Internal View)*

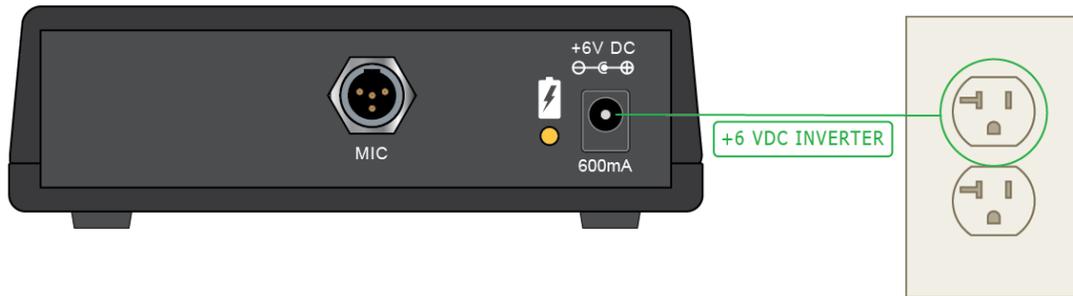


- Ensure the unit is powered off and not plugged into a AC wall outlet.
- Remove 2 screws from the bottom of the ANL-930.
- Turn the device back over so that it is standing on its feet or normal orientation.
- Remove the top cover only, to reveal the battery compartment.
- Take care to ensure battery is installed with proper orientation. The battery compartment has + and – marked. If those are too hard to see, put the positive side with the red wire and the negative with the black wire. Reassemble unit.
- Discard old batteries in accordance with your local solid waste authority rules.

## 6V DC Power Adapter

Using the 6V DC Power Adapter included with the system, connect the +6V DC connector on the ANL-930 to a standard AC wall outlet.

Figure 2.2 – ANL-930 Back Panel



**NOTE: Use ONLY the included 6V DC Power Adapter with the ANL-930.**

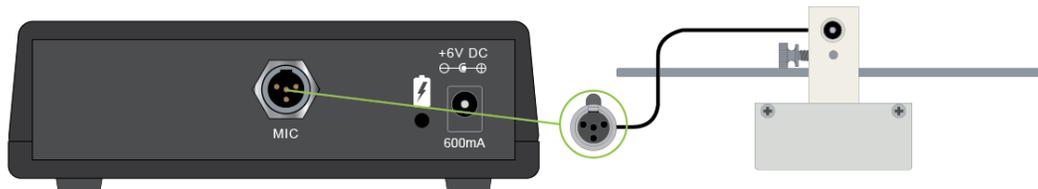
## Charging

The Amber Battery LED will be lit solid while charging. If the amber LED is blinking, the battery has stopped charging and timed out. If this occurs unplug the unit and then plug it back in. Battery life is approximately 30hrs and charging time is 7hrs, from empty to full. The amber charging light will turn off when charging is complete.

### CHAPTER 3 | ENV-269 MICROPHONE WITH POSITIONING JIG

The ANL-930 Standalone Sound Pressure Level Measurement Package includes the ENV-269 Microphone with Positioning Jig. The ENV-269 is designed to provide consistent microphone placement from chamber to chamber, which helps to ensure that all speakers in a system are uniformly calibrated.

*Figure 3.1 - Connect the ENV-269 Cable to the ANL-930 MIC Connector*



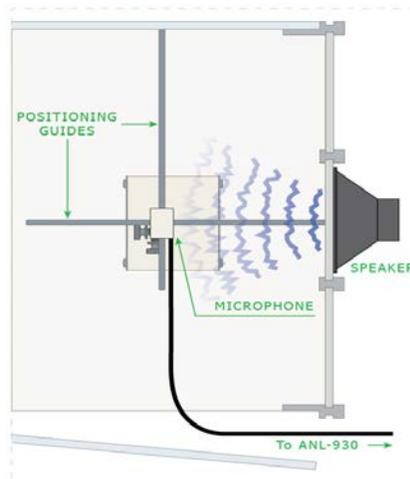
**NOTE:** Ensure ANL-930 is powered off when connecting and disconnecting the ENV-269.

#### Positioning Microphone in Standard Chambers

To use the ENV-269 Microphone with Positioning Jig in a standard chamber:

1. Loosen the thumbscrews so that the positioning guides may be adjusted.
2. Place the ENV-269 in the desired location in the chamber, with the microphone facing the speaker, as shown in Figure 3.2.
3. Adjust the positioning guides so that they are touching two walls of the chamber, as shown in Figure 3.2 and tighten the thumbscrews.
4. After calibration, place the ENV-269 in the next chamber to be calibrated, using the positioning guides to mimic the placement used in the previous chamber.

*Figure 3.2 – Top View of the ENV-269 in a Standard Chamber*



## Positioning Microphone in Startle Chambers

### Large Animal Holder

To use the ENV-269 in the ENV-264A and ENV-264B Steel Grid Rod Animal Holders or the ENV-262B and ENV-262C Round Acrylic Animal Holders, remove the positioning guide indicated below.

Place the ENV-269 in the animal holder with the microphone facing the speaker (back of the holder), as shown below. The ENV-269 is designed to fit over the grid floor, allowing the grid rods to be used for consistent placement from chamber to chamber.

*Figure 3.3 - Remove Positioning Guide for Large Animal Holder*



### Small Animal Holder

To use the ENV-269 Universal Microphone Holder in ENV-264C Animal Holders, remove both of the positioning guides from the ENV-269. Place the ENV-269 in the animal holder with the microphone facing the speaker (back of the holder), as shown below.

The ENV-269 is designed to fit over the grid floor, allowing the grid rods to be used for consistent placement from chamber to chamber.

*Figure 3.4 - Remove Both Positioning Guides for Small Animal Holder*



## CHAPTER 4 | OPERATION

**On/Off Switch:** Turns the device On/Off. The green LED on the switch is lit when the device is on. The green LED on the switch flashes when battery power is < 10%.

*Figure 4.1 – ANL-930 Front Panel Battery Status*



### Display:

**Battery Status:** When the ANL-930 is switched on, the battery status will be briefly indicated on the display before going into normal operation (BATT NOT DETECTED when battery is not installed or Battery: % when battery is installed).

*Figure 4.2 – ANL-930 Front Panel in Normal Operation*



### Display:

**Normal Operation:** After powering on the ANL-930 and a brief battery status, the ANL-930 will automatically progress into normal operation. The display will show the frequency and decibel level when introduced to a pure tone. When introduced to white noise or a non-pure tone the ANL-930 will display NOISE and the decibel level.

## APPENDIX A | CONTACT INFORMATION

Please contact Med Associates, Inc. for information regarding any of our products.

Visit our website at [www.med-associates.com](http://www.med-associates.com) for contact information.

For technical questions, email [support@med-associates.com](mailto:support@med-associates.com).