optional for ENVIRONMENT METER

SOUND ADAPTER

Model : SL-417

Your purchase of this SOUND ADAPTER marks a step forward for you into the field of precision measurement. Although this SOUND ADAPTER is a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach.

ISO 9001:2008 SGS UKAS QUALITY MANAGEMENT 005

OPERATION MANUAL

TABLE OF CONTENTS

1. FEATURES

* Cooperate with the ENVIRONMENT METER, EM-9300SD to be as a professional sound level meter.
* 30 to 130 dB, 3 ranges.
* Frequency weighting networks are designed to meet the IEC 61672 class 2.
* A weighting networks are conformity to standards.
* Fast Time weighting dynamic characteristic modes.
* Condenser microphone for high accuracy & long-term stability.
* Over/Under range indicator.
* Low battery indicator.

2. SPECIFICATIONS

<table>
<tr><td>Measurement Range</td><td>30 to 130 dB, 3 ranges
Range 1 : 30 to 80 dB.
Range 2 : 50 to 100 dB.
Range 3 : 80 to 130 dB.</td></tr>
<tr><td>Output</td><td>10 mV per 1 dB.</td></tr>
<tr><td>Accuracy
(23± 5℃)</td><td>Frequency weighting meet IEC 61672 class 2, calibrating input signal on 94 dB (31.5 Hz to 8 kHz), then the accuracy of A weighting is specified as following :

<table>
<tr><td>31.5 Hz</td><td>± 3.5 dB</td></tr>
<tr><td>63 Hz</td><td>± 2.5 dB</td></tr>
<tr><td>125 Hz</td><td>± 2.0 dB</td></tr>
<tr><td>250 Hz</td><td>± 1.9 dB</td></tr>
<tr><td>500 Hz</td><td>± 1.9 dB</td></tr>
<tr><td>1 K Hz</td><td>± 1.4 dB</td></tr>
<tr><td>2 K Hz</td><td>± 2.6 dB</td></tr>
<tr><td>4 K Hz</td><td>± 3.6 dB</td></tr>
<tr><td>8 K Hz</td><td>± 5.6 dB</td></tr>
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Frequency Weighting Network	Characteristics of A weighting. A weighting : The characteristic is simulated as " Human Ear Listing " response.
Frequency	31.5 Hz to 8,000 Hz.
SL-407 be calibrated when production	B & K (Bruel & Kjaer) : Multi-fuction acoustic calibrator, Model : 4226.
Microphone type	Electric condenser microphone.
Size of microphone	1/2 inch standard size.
Calibration VR	Build in external calibration VR.
Battery	DC 9 V battery (006P, 6F22). *@ Alkaline or heavy duty type.*
Power Consumption	Approx. DC 12 mA.
Operating Temperature	0 to 50 ℃ (32 to 122 ℉).
Operating Humidity	Less than 80% RH.
Weight	220 g/0.49 LB (including battery).
Dimension	*Main instrument :* 107 x 53 x 29 mm (4.2 x 2.1 x 1.1 inch).
	Probe : Dia. 12.7 mm x 58 mm. (Dia. 0.5 inch x 2.28 inch).
Accessories Included	Operation Manual..... 1 PC.
Optional Calibrator	94 dB Sound Level Calibrator, Model : SC-941
	94/114 dB Sound Level Calibrator Model : SC-942

3. FRONT PANEL DESCRIPTION

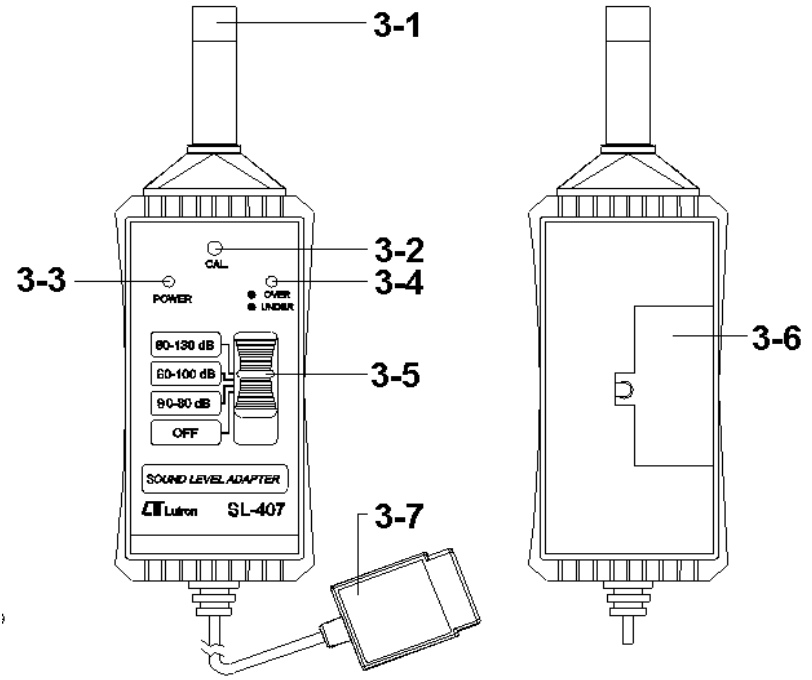

Fig. 1

3-1 Sound microphone
3-2 Calibration VR
3-3 Power indicator
3-4 Over/Under range indicator
3-5 Range switch/Power off Switch
3-6 Battery cover/Compartment
3-7 Output plug

4. OPERATION PROCEDURES

1) Connect the " Output Plug " (3-7, Fig. 1) to the input terminals of ENVIRONMENT METER (EM-9300SD)
2) Determine proper measuring range by selecting the " Range Switch " (3-5) to minimize the tolerance of readout.
   When the " Over/Under range indicator " (3-4, Fig. 1) show the red color, it shows the over range, Slide the " Range switch " to other higher range for measuring.
   When the " Over/Under range indicator " (3-4, Fig. 1) show the green color, it shows the under range, slide the " Range switch " to other lower range for measuring.
3) Hold the instrument in hand and point the microphone at measured noise source, the sound level will be displayed on " dB " (decibel) unit.

MEASURING CONSIDERATION

1) Should select proper measurements range to minimize the tolerance of readout.
2) Don't keep or operate the instrument at high temperature & humidity environment for a long period.
3) Keep microphone dry & avoid serious vibration.

5. REPLACEMENT OF BATTERY

1) Power on, the " Power indicator " (3-3, Fig. 1) will be lit.
   It is necessary to replace the battery when " Power indicator " is not light.
2) Open the " Battery Cover " (3-6. Fig 1), and remove the battery.
3) Replace with 9V battery (heavy duty type) and reinstate the cover.

6. CALIBRATION

The sound level adapter is built in the internal " Calibration VR " (3-2, Fig. 1) on the front panel. Please according the following procedures to calibrate the instrument accurately, if it is necessary.

1) Prepare the optional " Sound Level Calibrator, Model: SC-941 or SC-942 ". Power on the Sound calibrator & plug calibrator output into the " Sound microphone " (3-1, Fig. 1) of the Sound Adapter.
2) Slide the " Range switch " (3-5, Fig. 1) to " 50 - 100 dB " position.
3) Carefully adjust the " Calibration VR " (3-2, Fig. 1) with " - " screw driver, until the display read within " 94.0 ± 0.2 " dB.

7. FREQUENCY WEIGHTING CHARACTERISTICS OF A NETWORKS

Frequency Hz	A Weighting Charac.	Tolerance (IEC 61672 class 2)
31.5	-39.4 dB	± 3.5 dB
63	-26.2 dB	± 2.5 dB
125	-16.1 dB	± 2.0 dB
250	-8.6 dB	± 1.9 dB
500	-3.2 dB	± 1.9 dB
1 K	0 dB	± 1.4 dB
2 K	+1.2 dB	± 2.6 dB
4 K	+1 dB	± 3.6 dB
8 K	-1.1 dB	± 5.6 dB