

MARTEL
ELECTRONICS

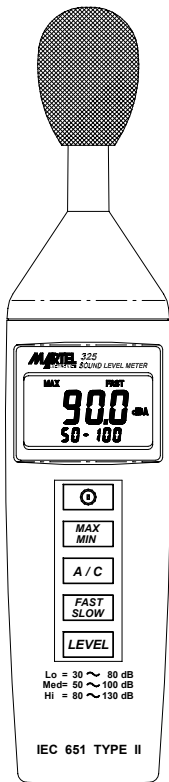
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TEST TOOLS

MINI SOUND LEVEL METER

MINI SOUND LEVEL METER

CE



Instruction Manual



C O N T E N T S

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I. 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

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

➤ Maintenance & Clearing

- ❶ Repairs or servicing not covered in this manual should only be performed by qualified personnel.
- ❷ Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instrument.

➤ Safety symbols

 Complies with EMC

When servicing, use only specified replacement parts.

II. General Description

To ensure that you can get the most from the Mini Sound Level Meter, we recommend that you read and follow the manual carefully before use.

This unit conforms to the IEC651 type2, ANSI S1.4 Type 2 for Sound Level Meters.

This Sound Level Meter has been designed to meet the measurement requirements of safety Engineers, Health, Industrial safety offices and sound quality control in various environments.

- Range from 32dB to 130dB at frequencies between 31.5Hz and 8 KHz.

- Display with 0.1dB steps on a 4-digit LCD.
- Two equivalent weighted sound pressure levels, A and C.
- AC signal output is available from standard 3.5mm coaxial jack suitable for a frequency analyzer, level recorder, FFT analyzer, graphic recorder , etc.

III. Specifications

Standard Applied:	IEC651 Type2, ANSI S1.4 Type 2
Frequency Range:	31.5Hz to 8KHz
Measuring Level Range:	32dB to 130dB
Frequency Weighting:	A/C
Microphone:	1/2 inch electret condenser microphone
Display:	LCD
Digital Display:	4 digit
Resolution:	0.1dB
Display Update:	0.5 sec.
Time Weighting:	
FAST	125ms
SLOW	1 second
Level Ranges:	
Lo:	32 dB to 80 dB
Med:	50 dB to 100 dB
Hi:	80 dB to 130 dB
Accuracy:	±1.5dB (under reference conditions, 94dB@1kHz)
Dynamic Range:	50 dB
Alarm Function:	“ OVER ” is displayed when the

input is more than the upper limit of the range.
“**UNDER**” is displayed when the input is less than the lower limit of the range.

MAX/MIN Hold function: Holds readings of the maximum and minimum value.

AC Output:

Voltage: 1 Vrms at full scale

Impedance: Approx. 100 Ohms

Electromagnetic Compatibility:

RF field 3V/m

Total accuracy specified accuracy + 0.5dB

Power Supply:

One 9V battery

006P or IEC 6F22 or NEDA 1604.

Power Life:

Approximately 70 hours

(Alkaline Battery)

Operation Temperature: 0 to 40°C (32 to 104°F)

Operation Humidity: 10 to 90% RH

Storage Temperature: -10 to 60°C (14 to 140°F)

Storage Humidity: 10 to 75% RH

Dimensions:

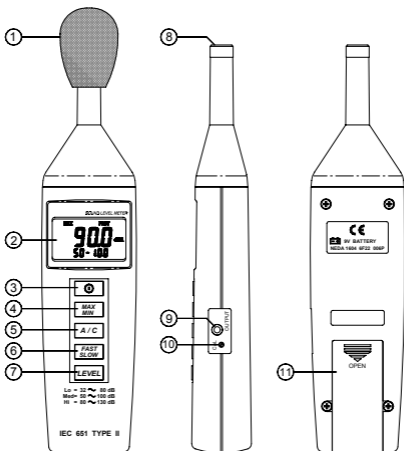
9.1" L x 2.1" W x 1.3" H

23.1 cm x 5.3 cm x 3.3 cm

Weight: .75 lbs (.34kg) (including battery)

Accessories: 9V alkaline battery, instruction manual, carrying case, screwdriver, and windscreen.

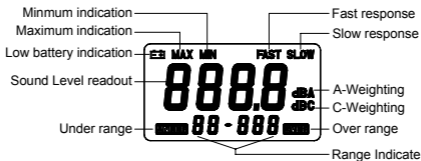
IV. Controls



① Windscreen

If you operate the meter in wind speeds over 10m/sec, for best performance, please install the protective windscreen.


② Display




③ Power Button

The ① button turns the sound level meter ON or OFF.

④ MAX/MIN Hold button

Press the  button to enter the maximum and minimum recording mode. Select the proper level range before using MAX/MIN to ensure that read value will not exceed the measurement range. Press once to select the MAX value. Press again to select the MIN value, and press again to select the current value. The "MAX/MIN" indicator will blink.

Press and hold the  button for two seconds to exit the MAX/MIN mode.

Note: If the sound level or A-C weight are changed, the MAX/MIN mode will clear.

⑤ Frequency Weighting Select Button

A: A-Weighting for general sound level measurements

C: C-Weighting for checking the low-frequency content of noise

(If the C-Weighted level is much higher than the A-weighted level, then there is a large amount of low-frequency noise.)

⑥ Time Weighting Select Button.

FAST: for normal measurements

SLOW: for checking average level of fluctuating noise

⑦ Level Range Control Button

Each time the level button is pressed, the level range will cycle through the "Lo", "Med", and "Hi" levels.

⑧ Microphone

1/2 inch Electret Condenser microphone

⑨ AC Output Terminal

1 Vrms Corresponding to each range step.

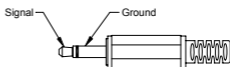
Output impedance: 100 ohms

Output signal on standard 3.5mm coaxial jack; signal on pin (tip).

⑩ **CAL Potentiometer**

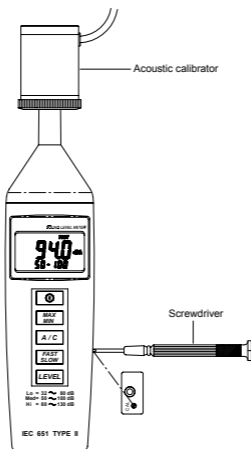
Calibration control for level calibration adjustment.

⑪ **Battery Cover**



V. Calibration Procedures

Using a standard Acoustic Calibrator
(94dB, 1KHz sinewave)




- (1) Make the following switch settings.
Display: dBA
Time Weighting: FAST
Measurement Mode: MAX/MIN Mode function disable.
Level Range: 50 to 100dB
- (2) Insert the microphone housing carefully into the insertion hole of the calibrator.
- (3) Turn on the calibrator and adjust the CAL potentiometer of the meter until the level display indicates the desired level. The meter is calibrated before shipment. We recommend recalibration annually.

VI . Measurement Preparation

(1) Battery Loading

Remove the battery cover on the back and install one 9V Battery.

(2) Battery Replacement

When the battery voltage drops below that required for reliable operation, the low battery symbol  will appear, indicating it is time to replace the battery.

VII. Operating Precautions

- (1) Wind blowing across the microphone induces a significant amount of extraneous noise. When using the instrument in the presence of wind, install the windscreen to eliminate the pick up of undesired signals.
- (2) Calibrate the instrument before operation if the instrument has not been used for a long period of time.
- (3) Do not store or operate the instrument in high temperature and high humidity environments.

- (4) Keep the microphone dry and avoid severe vibration.
- (5) Remove the battery from the instrument, and store in a low humidity environment when not in use.

VIII. Measurement

- (1) Open the battery cover and install a 9V battery in the battery compartment.
- (2) Turn power ON and select the desired response time and weighting. If the sound source consists of short bursts, or the meter is only catching sound peaks, set response to FAST. To measure average sound levels, use the SLOW setting.
Select A-weighting for general noise sound level and C-weighting for measuring sounds with high low frequency content.
- (3) Select desired level.
- (4) Hold the instrument comfortably in your hand and point the microphone at the suspected noise source. Read the sound pressure level from the display.
- (5) When MAX/MIN (maximum/minimum hold) mode is chosen, the instrument captures and holds the maximum and minimum noise level values indefinitely. The MAX/MIN function operates on all settings, regardless of the response time, weighting, or range.
Press the MAX/MIN button for two seconds to clear the MAX/MIN reading. The "MAX/MIN " symbol will disappear.
- (6) Turn OFF the instrument and remove the battery when not is use.

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