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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

- Altitude up to 2000 meters
- Relatively humidity 90% max.
- Operation Ambient 0 ~ 40℃

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 instruments.

Safety symbols

CE **Comply with EMC**

When servicing, use only specified replacement parts.

II. GENERAL DESCRIPTION

Thank you for using our Sound Level Meter. To ensure that you can get the most from it, we recommend that you read and follow the manual carefully before use.

This unit conforms to the IEC60651 type2, ANSI S1.4 Type2 for Sound Level Meters.

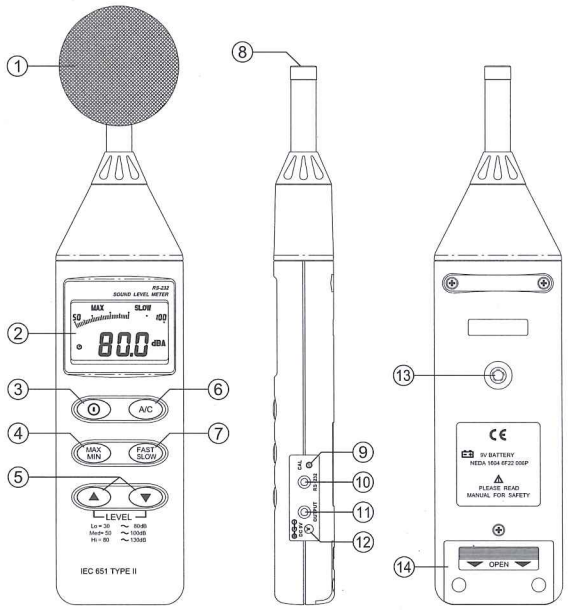
It uses RS232 interface to perform bi-directional communication with PC.

III. SPECIFICATIONS

Standard applied : IEC60651 Type2, ANSI S1.4 Type2.
Frequency range : 31.5Hz ~ 8KHz
Measuring level range : 30 ~ 130dB
Frequency weighting : A / C
Microphone : 1/2 inch electret condenser microphone
Display : LCD
Digital display : 4 digits
Resolution: 0.1dB
Display Update: 0.5 sec.
Analog display : 50 segment bargraph
Resolution : 1dB
Display Update : 100 mS
Time weighting : FAST (125mS), SLOW (1 sec.)
Level ranges : Lo : 30 – 80 dB
Med : 50 – 100 dB
Hi : 80 – 130 dB
Auto : 30 – 130 dB
Accuracy : ±1.5dB (under reference conditions @ 94dB, 1KHz)
Dynamic range : 50 dB
Alarm function : "OVER" is when input is more than upper limit of range.
" UNDER " is when input is Less than lower limit of range.
MAX/MIN hold : Hold readings the Maximum and Minimum Value.
AC output : 1 Vrms at FS (full scale).
Output impedance: Approx. 100Ω
FS: means the upper limit of each level range.
DC output : 10mV / dB , output impedance approx. 1KΩ
Power supply : One 9V battery, 006P or IEC 6F22 or NEDA 1604.
Power life : About 50hrs (alkaline battery)
AC adapter : Voltage 9 VDC (8-10VDC Max)
Supply current : > 30mADC Socket : pin → Ground
Casing → Positive External Diameter → 3.5mm
Internal Diameter → 1.35mm

Electromagnetic Compatibility:
RF field = 3V/m
Total accuracy = specified accuracy + 0.5dB
Operation temperature : 0 to 40℃ (32 to 104℉)
Operation humidity : 10 to 90%RH
Storage temperature : -10 to 60℃ (14 to 140℉)
Storage humidity : 10 to 75%RH
Dimensions : 275 (L) x64 (W) x30 (H)mm
10.8 (L) x2.5 (W) x1.2 (H)inch
Weight : 285g (including battery)
Accessories : 9V battery, carrying case, Screwdriver, Instruction manual. Windscreen, 3.5φ plug.
Optional : Software, RS-232 cable, USB cable.

IV. NAME AND FUNCTIONS



① **Windscreen**

If you operate at wind speed over 10m/sec, please put protective accessories in front of the microphone.

② **Display**



SYMBOL	*FUNCTION*
LCD	4 digits
MAX	Maximum indication
MIN	Minimum indication
OVER	Over range
UNDER	Under range
FAST	Fast response
SLOW	Slow response
dBA	A-Weighting
dBC	C-Weighting
88-180	Range Indicate
	Low-Battery
-LO-	Under range 20dB
AUTO	Auto Level range selective

③ **Power & Backlight button**

The ① key turns the sound level meter ON or OFF and backlight ON & OFF.

Press it once to turn on the sound level meter.

Press it again for moment to turn ON or OFF backlight.

Press and hold this button 3 second to turn OFF the power.

Instruction Manual

④ **MAX / MIN hold button**

Press MAX MIN button to enter the maximum and minimum recording mode. Select the proper Level range before using MAX/MIN to ensure that reading value will not exceed the measurement range. Press once to select MAX value. Press again to select MIN value, and press again to select current value with " MAX MIN " annunciator blinking.

Press MAX MIN and hold down button for 2 seconds to exit the MAX MIN mode.

Note: If change sound level range or change A-C weight, the MAX.MIN mode will clear.

⑤ **Level range control switch**

Each time the UP button ▲ is pressed. The level range increments from " Lo " Level to " Hi " Level range and to "Auto" Level range.

Each time the DOWN button ▼ is pressed. The range decreases from "Auto" Level range to " Hi " Level and to " Lo " Level range.

⑥ **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)

⑦ **Time weighting select button**

FAST : for normal measurements

SLOW : for checking average level of fluctuating noise.

⑧ **Microphone**

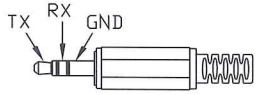
1/2 inch Electret Condenser microphone

⑨ **CAL potentiometer**

Calibration control, for level calibration adjustment.

⑩ **RS-232 Interface:**

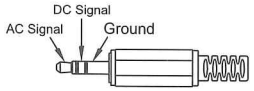
The RS-232 signal output is a 9600 bps N 8 1 serial interface.



⑪ **Signal output terminal**

AC: 1 Vrms Corresponding to each range step.
Output impedance ≒ 100Ω
Output signal by standard 3.5mm coaxial socket signal on pin.

Note: At "Auto" level range, output signal is Auto select on "Lo" or "Med" or "Hi" level range.



DC: Output : 10mV/dB
Output impedance ≒ 1KΩ
Output signal by standard 3.5mm coaxial socket signal on middle.

⑫ **External DC 9V power supply terminal**
For connection with AC adapter.

⑬ **Tripod mounting screw.**

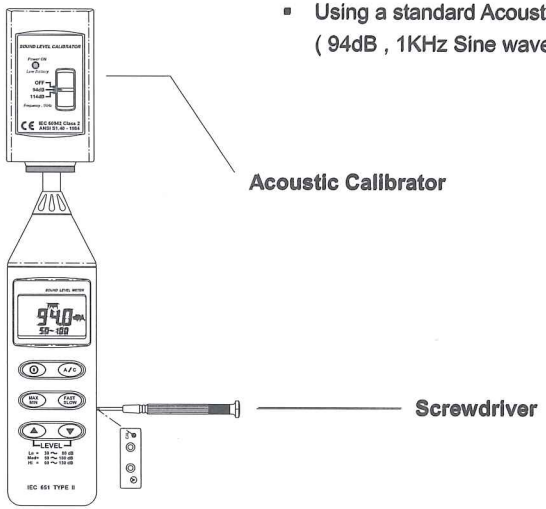
⑭ **Battery Cover**

V. AUTO POWER OFF

By default, when the meter is powered on, it is under auto power off mode. The meter will power itself off after 30 minutes if no key operation and no RS232 communication and no recording combination at power on can disable auto power off.
One may press and hold "**FAST/SLOW**" button and then power on the meter and the ⏻ will not show up to indicate that auto power off is disabled.

VI. CALIBRATION PROCEDURES

- **Using a standard Acoustic Calibrator (94dB , 1KHz Sine wave)**



(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 switch of calibrator and adjust the CAL potentiometer of the unit. The level display will indicate the desired level.
All products are well calibrated before shipment.
Recommended Recalibration cycle : 1 year.

VII . MEASUREMENT PREPARATION

(1) Battery Loading
Remove the battery cover on the back and put in one 9V Battery.

(2) Battery Replacement
When the battery voltage drops below the operating voltage, this symbol will appear 🔋. Replace 9 Volt battery.

(3) AC Adapter Connection

When the AC adapter is used, insert the plugs of the adapter into the DC9V connector on the side panel.

VIII. OPERATING PRECAUTIONS

(1) Wind blowing across the microphone would bring additional extraneous noise.
When using the instrument in the presence of wind, it is a must to mount the windscreen to not pick up undesirable signals.

(2) Calibrate the instrument before operation if the instrument was not in use for a long time or operated in bad environment.

(3) Do not store or operate the instrument at high temperature and high humidity environment.

(4) Keep microphone dry and avoid severe vibration.

(5) Please take out the battery and keep the instrument in low humidity environment. When not in use.

IX. MEASUREMENT

(1) Open 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 only catching sound peak, set response to FAST. To measure average sound level, use the SLOW setting. Select A-weighting for general noise sound level and C-weighting for measuring sound level of acoustic material.

(3) Select desired Level.

(4) Hold the instrument comfortably in hand or fix on tripod and point the microphone at the suspected noise source, the sound pressure level will be displayed.

(5) When MAX MIN (maximum, minimum hold) mode is chosen. The instrument captures and holds the maximum and minimum noise level for a long period using any of the time weightings and ranges.
Press the MAX MIN button 2 seconds to clear the MAX/MIN reading. " MAX/MIN " symbol disappears.

(6) Turn OFF the instrument and remove battery when not in use.