

# SOUND LEVEL METER

## DVM1351



**INSTRUCTION MANUAL**

**HANDLEIDING**

**MANUEL D'UTILISATEUR**

# 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***

- ① Altitude up to 2000 meters
- ② Relatively humidity : 90% max.
- ③ Operating Ambient : 0 ~ 40°C

## ***Maintenance & Cleaning***

- ① Repairs or servicing not covered in this manual should only be performed by qualified personnel.
- ② Periodically wipe the case with a dry cloth. Do not use abrasives or solvents on this instrument.

## ***Safety symbols***

 Meter is protected throughout by double insulation or reinforced insulation.

 Complies with EMC

# GENERAL DESCRIPTION AND FEATURES

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

This unit conforms to the IEC651 type2, ANSI S1.4 Type2 for Sound Level Meters.

The Sound Level Meter has been designed to meet the measurement requirements for industrial safety offices and sound quality control in various environments,

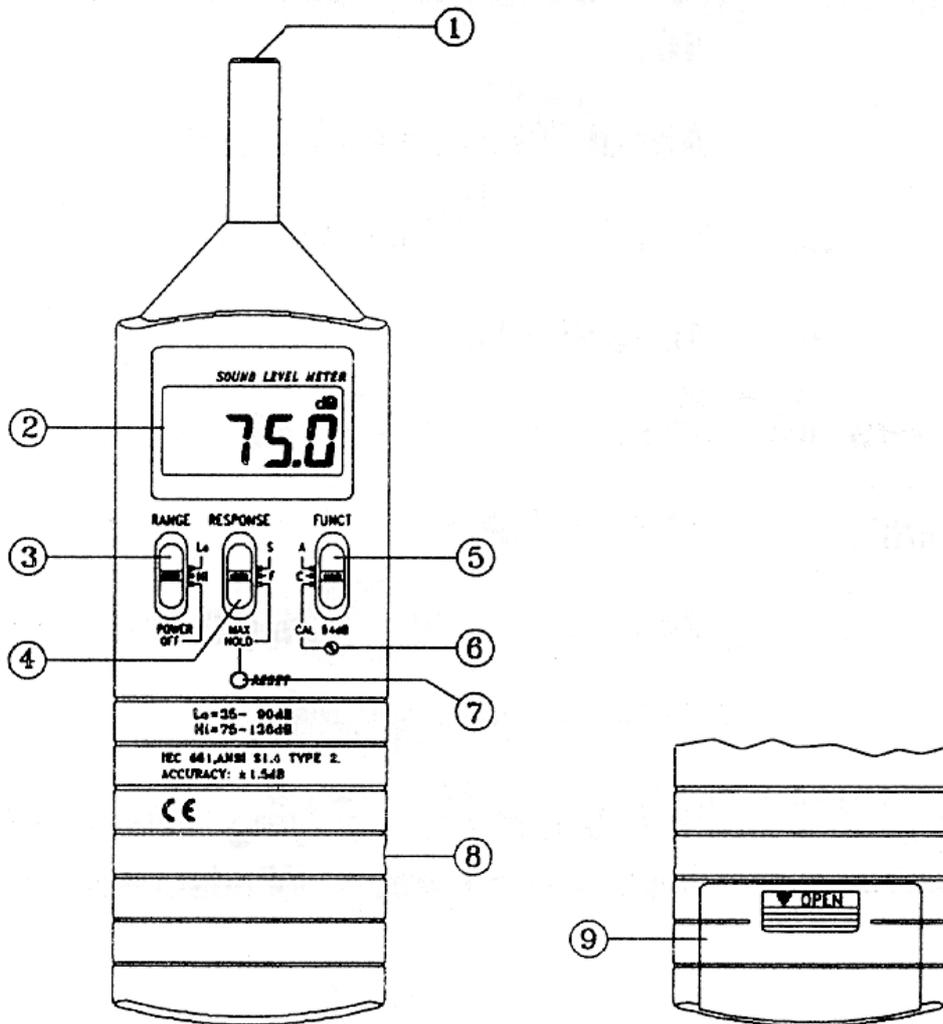
- Ranges from 35dB to 130dB at frequencies between 31.5Hz and 8KHz.
- Display with 0.1 dB steps on a 4-digits LCD.
- With two weighting, A and C.
- Both AC and DC signals output is available from a single standard 3.5mm coaxial socket suitable for a frequency analyser, level recorder, FFT analyser, graphic recorder, etc.

# SPECIFICATIONS

Standard applied	IEC651 Type2, ANSI SI. 4 Type2.
Frequency range	31.5Hz ~ 8KHz
Measuring level range	35 ~ 130dB
Frequency weighting	A/C
Microphone	1/2 inch Electret condenser microphone
Display	LCD
Digital display	4 digits Resolution : 0.1dB Display period : 0.5 sec.
Time weighting	FAST (1 25mS ), SLOW (1 sec.)
Level ranges	Lo: 35 ~ 90dB and Hi : 75 ~ 130dB
Accuracy	± 1.5dB (under reference conditions)
Dynamic range	55dB
Alarm function	" OVER " is show when input is out of range
Maximum hold	Hold readings, with decay < 1 dB / 3 minutes
Calibration	Electrical calibration with the internal oscillator (1 KHz sine wave)

AC output	0.65 Vrms at FS (full scale), output impedance approx. 600Ω
DC output	10mV / dB, output impedance approx. 100Ω
Power supply	One 9V battery
Power life	About 50hrs ( alkaline cell)
Operating temperature	0 to 40°C (32 to 104°F)
Operating humidity	10 to 90%RH
Storage temperature	-10 to 60°C (14 to 140°F)
Storage humidity	10 to 75%RH
Dimensions	240(L) x 68(W) 25(H)mm
Weight	210g (including battery)
Accessories	9V battery, carrying case, screwdriver, instruction manual, windscreen, 3.5mm plug.

# NOMENCLATURE AND FUNCTIONS



- ① Microphone  
1/2 inch Electret Condenser microphone
- ② Display  
Serves to display the sound pressure level (dB), over or under range "OVER", maximum hold data 'MAX HOLD' and Low battery indicator "BT".  
  - dB: Sound pressure level with 0.1dB resolution.
  - OVER: Shown when the range setting is too high (or low).

- ③ Power and Range switch
  - Turn power ON and select measurement range.  
(Hi range = 75 ~ 130dB, Lo range = 35 ~ 90dB)
  
  - When "OVER" is indicated, slide range switch to another range for measurement.

④ Response and Max hold switch

Setting the meter dynamic characteristics (Fast / slow) and maximum value hold

S (slow response) : for comparatively stable noise measurement.

F (fast response) : for fast, varying noise.

MAX HOLD : the max. hold position is used to measure the maximum level of sounds. The maximum measured level is continuously updated.

To re-refresh, please set switch to "F" or "S" position to cancel existing value, then set switch to "MAX HOLD" position.

⑤ Function switch (A / C weighting & calibration selector)

A : A-weighting

C : C-weighting

CAL 94dB : Calibration

⑥ Calibration control can be adjusted clockwise or anticlockwise to standard 94.0dB.

⑦ Reset button:

Serves to reset the maximum level indication.

⑧ Output jack

Standard 3.5mm 3 pole coaxial output socket.

Serves to supply AC signals and log-converted DC signals to external equipment.

## OUTPUTS

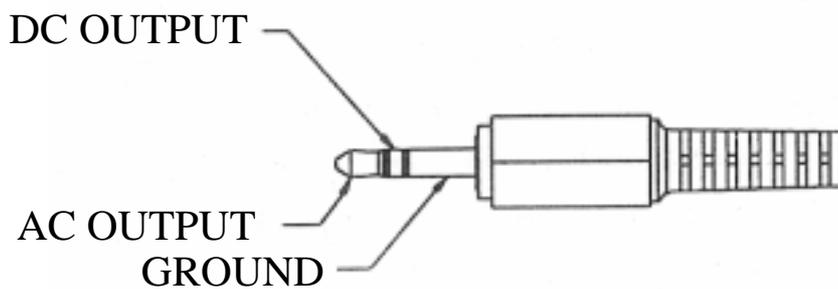
Two outputs can be accessed through 3.5mm stereo phone plug refer.

DC output : Logarithmic signal. 10mV/dB

Impedance :  $\leq 100\Omega$

AC output : approx. 0.65Vrms corresponding to each range step.

Impedance :  $600\Omega$



⑨ Battery cover (on bottom)

## LCD DISPLAY DESCRIPTION

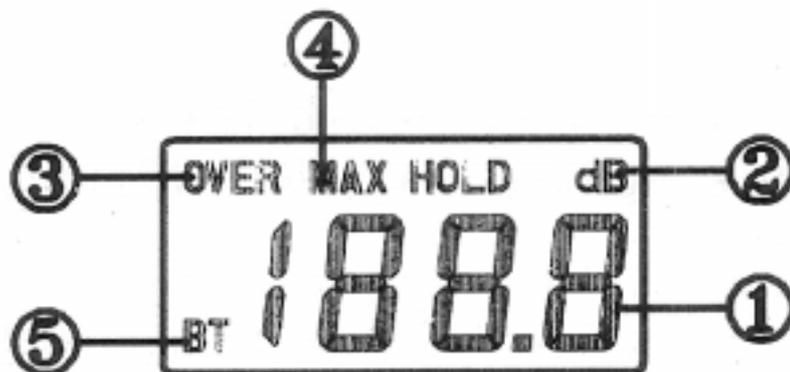
① Sound Pressure Level measuring value, resolution 0.1dB.

② Measuring unit

③ When readout is out of range.

④ MAX HOLD: Maximum hold.

⑤ BT: Low battery indicator.



# CALIBRATION PROCEDURES

## (1) Using an acoustic calibrator

a) Make the following switch settings.

RANGE : Hi

RESPONSE : F

FUNCT : A

b) Put the microphone carefully into the insertion hole of the calibrator.

c) Turn on the switch of calibrator and adjust the CAL screw of the instrument, until the level display indicates the desired level.

Note : Our products are well-calibrated before shipment. Recommended calibrator cycle is one year.

## (2) Calibration using the internal oscillator

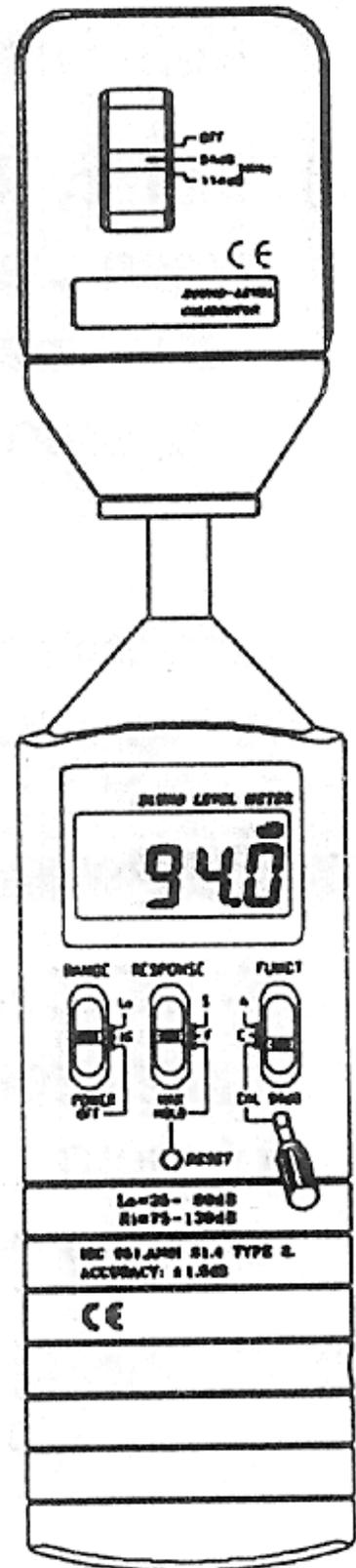
a) Make the following switch settings.

RANGE : Hi

RESPONSE : F

FUNCT : A

b) Adjust the unit to the readout.



## MEASUREMENT PREPARATION

(1) Battery Loading:

Remove the battery cover on the back and insert one 9V battery.

*Note : make sure the battery polarity is correct.*

(2) Battery Replacement:

When the battery voltage drops below the operating voltage, "BT" will appear on the display and the battery should be replaced with a new one.

## OPERATING PRECAUTIONS

(1) Wind blowing across the microphone will bring additional extraneous noise. Once using the instrument in the presence of wind, the windscreen must be mounted in order not to pick up undesirable signals.

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

(3) Do not store or operate the instrument at high temperature and in a humid environment for a long period.

(4) Keep microphone dry and avoid severe vibration.

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

# MEASUREMENT

- (1) Open battery cover and install a 9-Volt battery in the battery compartment.
- (2) Turn on power and select the desired response 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 a general noise sound level and C-weighting for measuring the sound level of acoustic material.

- (3) Hold the instrument comfortably in the hand or fix it on a tripod and point the microphone at the suspected noise source, the sound pressure level will be displayed.
- (4) When MAX HOLD mode is chosen, the instrument captures and holds the maximum noise level for a long period.  
Press "RESET"-button to reset the maximum level indication.
- (5) Turn OFF the instrument when not in use.