



DIGITAL SOUND METER DSM100

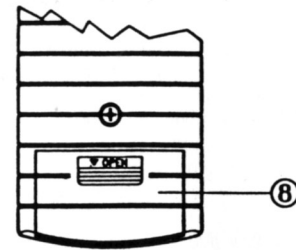
INSTRUCTION MANUAL



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SPECIFICATION

Display: 3 1/2 digital LCD display.
Applicable Standard: According to IEC651 Type 2.
Measurement Range: A LO (Low-Weighting): 35 ~ 100 dB
A HI (High)-Weighting: 65 ~ 130dB
C LO (Low)-Weighting: 35 ~ 100dB
C HI (High)-Weighting: 65 ~ 130dB
Resolution: 0.1dB
Typical Instrument frequency range: 30Hz ~ 12KHz
Accuracy: ± 2 dB at 94dB sound level, 1KHz sine wave
Dynamic Range: 65dB
Frequency Weighting: A and C
Time Weighting: Slow and Fast
Maximum Hold: Holds noise readings, with decay < 1dB/3minutes
Microphone: 1/2" Electret condenser microphone
Calibration: Internal oscillation system (1 KHz Sine Wave general 94dB.
Auxiliary Outputs: AC conditioned, 0.65Vrms corresponding to each range step, Impedance: 600 Ω
DC Conditioned, 10mV/dB (nominally), Impedance: 100 Ω
Operating Temperature & Humidity: 0°C to 50°C, Below 80% RH
Storage Temperature & Humidity: -10°C to 60°C, Below 70% RH



- 1) Microphone
Electric 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"
Sound pressure level: In dB with 0.1dB resolution
OVER: Shown when the range setting is relatively high (or Low) to input level.
- 3) Power and Range Switch
• Turn power off and select measurement range.
(Hi range = 65 ~ 130dB LO range=35 ~ 100dB)
• 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 slow variable-noise measurement. dB level readout for approximately 1.5 Sec. period.

INTRODUCTION

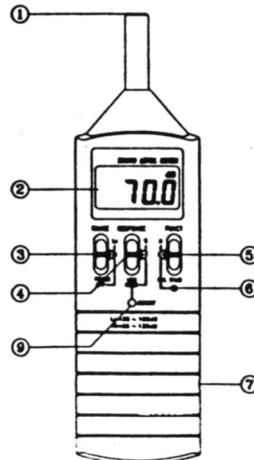
—The Digital Sound Survey Meter has been designed to meet the sound survey requirements of safety engineers, health, and quality control at various environments. It has scores of practical applications for professional and home use: measuring noise levels in factories, schools, offices, airports, etc.; checking acoustics of studios, auditoriums and home hi-fi installations. The precisely calibrated meter features a large LCD display, in addition to function sign & unit indicator for instant measurements anywhere. Conditioned A.C and logarithmic D.C. outputs are available from a single standard 3.5mm 3 pole coaxial socket. So that they may be used with graphic level and tape recording systems.

FEATURES

- Maximum level hold.
- Over and Under range indicator.
- Pocket-Size and light weight.
- Large and easy-to-read LCD.
- AC and DC signal output for data analysis and recording.
- Internal oscillation system for calibration.
- A and C weightings for checking in compliance with safety regulations as well as acoustic analysis.
- Fast and Slow dynamic response settings to check peak and average noise levels.

Power Supply: One 006p 9V or IEC 6F22 or NEDA 1604 Battery
Battery Life: Approx. 100 hours (Alkaline)
Low battery Indication: The "BT" is displayed when the battery voltage drops below the operating voltage.
Warning Indications: "OVER" is show when input is over or under the range.
Dimensions: 240(L)x68(W)x25(H)mm (9.45"Lx2.68"Wx0.98"H)
Weight: 215g (7.58oz)
Accessories: Instruction manual, Battery, Carrying case & Adjustment screwdriver

PARTS AND FUNCTIONS



F(fast - response): for comparatively stable noise measurement. dB level readout for approximately 0.2 Sec. period
MAX HOLD: The Max Hold position is used to measure the maximum level of sounds. The maximum measured level is indicated continuously.
To re-fresh 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
The sensitivity adjuster 6) can be adjusted clockwise or counterclockwise as standard 94.0dB
- 6) Calibration Control (Sensitivity adjuster)
Used for unit calibration.
- 7) Output Jack
(Standard 3.5mm 3 pole coaxial output socket.)
Serves to supply AC signals and log-converted DC signals to external equipment.
- 8) Battery Cover (on bottom)
- 9) Reset Button:
Serves to reset the maximum level indication.

CALIBRATION

- 1) Slide the Function switch to CAL 94dB position, Response switch to F position and Range switch to HI position.
- 2) Adjust the calibration control to obtain a reading of 94.0dB.
The calibration uses a sine wave signal of 1000Hz generated by a built-in oscillator.

RESPONSE Selector

In FAST position, Meter will react quickly in respond to sound level, giving you an indication of peak sound levels presented in the environment. In SLOW position, Meter is damped and indicates an average-value sound level. The effect of brief sound peaks is minimized in this position.

WEIGHTING Selector

The frequency response of the Sound Level Meter for each weighting characteristic is according to IEC651 Type 2. The C-weighting curve is nearly uniform over the frequency range from 30 to 10,000Hz, thus giving an indication of overall sound level. The A-weighting characteristic responds primarily to the 500-to-10,000 Hz range, which is the area of greatest sensitivity of the human ear.

MEASUREMENT

- 1) Flip open battery compartment cover and install a 9-volt battery in the battery compartment.
- 2) Select the desired Response and Weighting. If the sound source consists of short bursts, or if you're interested in peak values only, set RESPONSE to FAST. To measure average-sound-level, use the SLOW setting. Select A-weighting for noise-level determinations, and C-weighting for measuring sound levels of acoustic material.
- 3) Select HI Range
This range covers sound levels between 65 and 130dB.
- 4) Hold the instrument comfortably in hand and point the microphone at the suspected noise source.
The sound level will be displayed.
- 5) Select LO (low) range when the indicated sound level falls below 65dB(A). If OVER is indicated on the display, reselect one of the HI ranges.
- 6) Slide the RESPONSE switch to MAX HOLD (maximum hold function) to capture and hold maximum noise levels for longer periods with any time weighting and range. To reset the maximum level indication and enter the new measurement, press the Reset button.
- 7) Turn the instrument OFF (RANGE switch to OFF) when not in use.
- 8) Remove batteries when out of service of longer periods.

OUTPUTS:

Two outputs from standard 3 pole 3.5mm coaxial socket with A.C. on pin. D.C on intermediate, and ground on sleeve. (Fig. 2)
DC: Logarithmic signal. 10mV/dB
Impedance $\approx 100\Omega$
AC: approx. 0.65 Vrms corresponding to each range step.
Impedance $\approx 600\Omega$

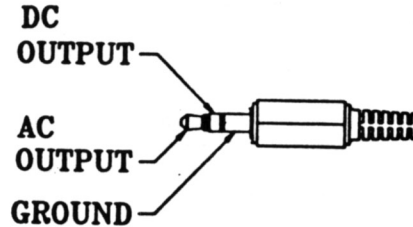


Fig 2

NOTES

- Select proper measurement range to minimize the tolerance of readout.
 - Calibrate the instrument before operation, if the instruments not in use for a long time or operated at bad environment.
 - If you operate at wind speed over 10m/sec, please put protective accessories in front of microphone.
 - Do not set RESPON Switch to MAX HOLD position for instrument calibration.
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- Do not keep or operate the instrument at high temperature and humidity environment for a long period.
 - Keeps microphone dry and avoids severe vibration.
 - Please take out the battery and keep instrument in low humidity environment, when not in use.
 - If you have any trouble, please contact with our service department.