897 Sound Dosimeter Measuring System

MADE IN



The **897 Dosimeter Sound Measuring System** conducts personal noise surveys to meet IEC and OSHA requirements. Used as a sound level meter, the 897 provides a quick survey of targeted areas and identifies suspect locations. The 897 is also ideal for industrial and environmental sound level measurements and checking noise areas for excessive dB exposure. Use the 897 to take measurements, or to view and print reports using a PC computer or printer. Reports are automatically printed on a compatible PC printer for later use during OSHA or other official inspections. Recorded data can also be viewed on a personal computer monitor by using an accessory cable and other manufacturer's software.
NOTE: Microsoft no longer includes a HyperTerminal program on Windows 7.

The 897 computes dosage and records up to 31 hours, at one minute intervals, of Lavg and Lmax readings and the number of detected 140 dB peak occurrences per minute.

- *Conforms to ANSI S1.4-1983, ANSI S1.25-1978, and IEC 651-1979 Specifications*
- *Choice of exchange rates (3, 4, or 5 dB) and criterion levels (70, 80, 84, 85, or 90 dB)*
- *Selectable threshold Level from 50-99 dB in 1 dB Increments*
- *Dual range (50-100 dB and 80-130 dB)*
- *Real Time Clock with rechargeable battery*
- *Security Lockout feature with Internal Data Storage*
- *Self-Test Modes test operational readiness*

Specifications

GENERAL

Power Requirements: Ni-Cad Rechargeable battery pack
Warm-Up Time: 1 minute
Dimensions: 6.8" (H) x 3.1" (W) x 1.1" (D), (172x80x28mm)
Weight: 18 oz. (500g) including battery pack
Case Construction: Anodized aluminum extrusion
Security Feature: Locks-in operating function
Real Time Clock: Clock continues running in all functions
Performance Capability: Conforms to ANSI S1.4-1983 and IEC 651-1971 for sound level function and ANSI S1.25-1978 for dosimeter function and ANSI S1.25-1978 for dosimeter function

SOUND LEVEL MODE

Ranges: 50 to 100dB, 80 to 130dB
Accuracy: True RMS, Type S2
Dynamic Range: Selectable from 50 to 100dB and 80 to 130dB
Frequency Response Weighting: "A" Weighting
Response Time: Slow (1 second)
Crest Factor: 10:1 at maximum indication
Frequency Range: 20Hz to 8KHz

DOSIMETER MODE

Threshold Level: Selectable from 50-99dB in 1dB increments
Criterion Level: Selectable, 70, 80, 84, 85 or 90dB
Criterion Duration (TC): Eight (8) Hours
Exchange Rate: Selectable 3, 4 or 5dB
Maximum Indication: 999.9% DOSE
Resolution: 0.1% DOSE to 999.9%
Elapsed Time: Displays either Hours: Minutes or Minutes: Seconds, up to 99 Hours 59 Minutes, 59 Seconds. Timing Accuracy: 0.05%
140dB Peak: Displays number of 140dB peaks that have been detected

MICROPHONE

Type: 0.52" (13.2mm) Diameter Electret Condenser, Omnidirectional 70° angle of incidence. Maximum sound pressure level 148dB.

DISPLAY

Numerical: 4 Digit LCD
Annunciators: Lo Batt, Spl Max, Int 60, % Dose, dBA, plus a colon and decimal point.

ENVIRONMENTAL

Operating Temperature: -10° to 50°C
Temperature Coefficient: ±0.05dB per °C (25° to 50°C) for reference measurement of 105dB at 1000Hz
Relative Humidity: <0.5dB (0-95% RH)
Storage Range: -30° to 45°C (without batteries)
Magnetic Field Influence: No effect in field of 1 oersted (80A/m)

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SMS-2 Universal Sound Dosimeter Kit

The SMS-2 contains everything necessary to perform accurate surveys for OSHA and IEC requirements, along with the performance and reliability Simpson's test instruments have to offer.

Kit includes:

A. Rugged Carrying Case
B. AC Adaptor (110, 120, 220, 240)
C. RS-232 Serial Cable and Parallel Printer Cable
D. Multi-Spline Wrench
E. Calibration Screwdriver
F. Microphone Clip
G. Wind Screen
H. 897 Dosimeter
I. 9V Battery
J. 887-2 Calibrator
K. Nose Cone



STANDARD REPORT OUTPUT

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                    SIMPSON 897 DOSIMETER
                    SOUND ANALYSIS REPORT
                          TYPE 2A

CRITERION = 90 DB
THERSHOLD = 80 DB
EXCHANGE RATE = 3 DB
UNIT IDENTIFACATION # 25

JOB

NAME

LOCATION

START DATE: 21/FEB/95
START TIME: 14:24
CALIBRATION:  94.8 DBA  14:24 21/FEB/95  RANGE: 50/100 DB
CALIBRATION: 113.9 DBA  14:24 21/FEB/95  RANGE: 80/100 DB

MEASUREMENT SUMMARY:
RUN TIME          = 00:15
HOLD TIME         = 00:02
L EQ              = 87.2 DBA
SPL MAX           = 87.2 DBA
DOSE              = 1.5%
140 DB PEAKS      = 0

                          HISOTGRAM

                  50    60    70    80    90   100   110   120   130
HRS:MIN     +  ..+ ..+ ..+ ..+ ..+..+..+..+ ..+
14:25       ======================= 88
14: 230                             ===  86
14:35       ================ 76 HOLD
HRS:MIN     +  ..+ ..+ ..+ ..+ ..+..+..+..+ ..+

HRS:MIN   LAVG    LMAX     PEAKS    RANGE
14:25     86.9    95.6     0        CHANGED
14:26     93.2    106.9    0        80/130
14:27     87.9    92.5     0        80/130
14:28     87.3    97.3     0        80/130
14:29     86.4    86.6     0        80/130
14:30     86.5    93.0     0        80/130
14:31     87.2    90.0     0        80/130
14:32     87.2    91.2     0        80/130
14:33     84.9    92.1     0        80/130
14:34     85.4    85.6     0        80/130
14:35     86.2    86.6     0        CHANGED
14:36     86.5    86.6     0        50/100    HOLD
14:37     60.9    71.5     0        50/100    HOLD
14:38     85.1    101.6    0        50/100
14:39     64.6    78.4     0        50/100

                        END OF REPORT
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887-2 Calibrator

The model 887-2 calibrator is selectable for either 94 dB or 114 dB sound pressure level at 1 KHz. The calibrator, immune to a wide range of temperature and humidity conditions, is compatible with 1/2" microphone. Operational readiness is indicated by the low battery red LED.



Specifications

GENERAL

Battery: One 9-volt battery, NEDA 1604A
Battery Life: Approximately 35 hours for 2 hours per day operation, with 9V alkaline battery
Mechanical Construction: Aluminum case includes acoustic cavity and provides shielding
Weight: 13.5oz (.35kg) - 897, 5.9 lbs. (2.68 Kg) SMS-2 Kit
Dimensions: 5 1/4" long, 2" diameter (131 mm long, 50mm diameter)

ACOUSTIC OUTPUT

Microphone: 0.52" inch diameter
Frequency: 1000Hz $\pm$ 2%
Sound Pressure: Selectable at 94 or 114 dB
Reference Level: 0dB = 20 μ Pascals
Accuracy: $\pm$0.5dB at reference conditions
Distortion: Less than 1%

ENVIRONMENTAL

Operating Temperature: 0° to 50°C
Storage Temperature: -40 to +60°C, battery removed
Temperature Coefficient: Less than $\pm$ 0.05 dB/°C
Operating Relative Humidity: 0 to 90%, non-condensing
Reference Conditions: 23°C, 760mm Hg
Relative Humidity: 30 to 60%

Specifications subject to change without notice.

Ordering Information

SOUND DOSIMETRY SYSTEM	Catalog No.	SOUND DOSIMETRY SYSTEM	Catalog No.	ACCESSORIES	Catalog No.
897 Universal Noise Dosimeter	12645	887-2 Calibrator	12648	RS-232 Serial Cable for 897	02233
SMS-2 Universal Noise Dosimeter Kit	12646			Parallel Printer Cable for 897	02234
				Case, Molded Plastic	45021

Mouser Electronics

Authorized Distributor

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Simpson:

12645 12648 12646