Simpson®

MADE IN THE USA SINCE 1936 RELIABILITY BEYOND MEASURE

897 Sound Dosimeter Measuring System



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 and record, then view and print reports from the computer by using HyperTerminal program for later use during OSHA or other official inspections.

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. You can then print data up to 8 hours of recorded readings.

- **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**

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Ordering Information	
Sound Dosimetry System	**Catalog Number**
897 Universal Noise Dosimeter	12645
SMS-2 Universal Noise Dosimeter Kit	12646
887-2 Calibrator	12648
Accessories	**Catalog Number**
RS-232 Serial Cable for 897	02233
Parallel Printer Cable for 897 (Optional)	02234
Case, Molded Plastic	45021

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 (Optional) 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



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Specifications of Model 897

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
SOUND LEVEL MODE	
Ranges	50 to 100dB, 80 to 130 dB
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	31.5Hz 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: 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	Range: 0-95% RH Influence: Less than 0.5db over measurement range
Storage Range	-30° to 45°C (Limitation of battery)
Magnetic Field Influence	No effect in of 1 oersted (80A/m)

STANDARD REPORT OUTPUT

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 has a selectable sound pressure range of 94dB and 114dB at 1 KHz.

The calibrator is 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 for 887-2 Calibrator

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 ± 1%
Sound Pressure	Selectable at 94 or 114 dB
Reference Level	0dB = 20µ Pascals
Accuracy	± 0.5dB at reference conditions
Distortion	Less than 2%
ENVIRONMENTAL	
Operating Temperature	0° to 50°C
Storage Temperature	-40 to +60°C, battery removed
Temperature Coefficient	Less than ± 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	

Mouser Electronics

Authorized Distributor

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