

# SV 104A

## Noise Dosimeter

MICROPHONE LIFETIME WARRANTY  
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INTELLECTUAL PROPERTY  
PATENTED MICROPHONE  
INTELLECTUAL PROPERTY



**SVANTEK**  
health and safety

# SV 104A Noise Dosimeter

The dosimeter has been designed to meet requirements of the **ANSI S1.25** and **IEC 61252** standards for noise dosimeters and the **IEC 61672** standard for class 2 sound level meters.

The dosimeter is suitable for noise exposure measurements in accordance with the following standards: **ISO 9612**, **OSHA**, **MSHA** and **ACGIH**.

The colour graphical display is an **OLED SCREEN** with a high contrast visibility even in full daylight or in low ambient light areas.

The **2.0 USB** interface provides fast data download and is used for battery charging.

The SV 104A is **FULLY CONFIGURABLE** in Supervisor software. Settings such as exchange rate, time constants, measurement time, start, stop or pause can be adjusted and saved in the instruments' memory as setup files.

The **TIME HISTORY LOGGING** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved in **8 GB** memory. All dosimetry results such as DOSE, TWA, Lav are also included.



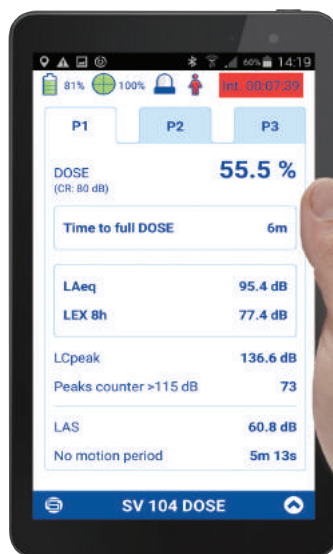
Patented **MEMS MICROPHONE** is resistant to mechanical shocks and accidental drop downs. The excellent stability of measurement parameters over the years of use is confirmed by the **MICROPHONE LIFETIME WARRANTY**.

The **AUTO-CALIBRATION** facility detects a calibration signal and automatically starts the calibration process, saving the calibration data together with the measurement file, both before and after measurement.

The **VOICE ANNOTATIONS** before or after the measurements allow easy identification of data files.

The inbuilt tri-axial **VIBRATION SENSOR** detects mechanical shocks and vibrations that influence noise measurement results and provides the information on the time when dosimeter is not used by the worker.

The SV 104A **BLUETOOTH®** interface enables current results to be previewed on a smart-phone or tablet using our **ASSISTANT** application. The smart-phone app also signals an alarm when set noise limits are exceeded.



## About SV 104A

The SV 104A is the first noise dosimeter on the market with a life-time warranty for the MEMS microphone that is resistant to accidental shocks, knocks or even fall-downs. The SV 104A Bluetooth® interface enables current results to be previewed on a smart-phone or tablet using our Assistant application. The smart-phone application also signals an alarm when the set noise limits are exceeded. All vibrations that affect noise measurement results are detected by an inbuilt tri-axial vibration accelerometer and are marked in the results time history, so they can be easily excluded from dose calculation. Additionally,

the accelerometer detects if dosimeter is not used by the worker and marks this information in time history.

We have designed the SV 104A to make noise dosimetry measurements easier, once the SV 104A detects a calibration signal, it calibrates automatically saving the calibration data together with the measurement file, before and after measurement.

Options for 1/1 & 1/3 octave and Audio Event Recording allow selection of hearing protectors and noise sources recognition.



## What's inside the SV 104A kit?



The standard SV 104A kit includes patented ST 104A shock resistant MEMS microphone with the **LIFE-TIME WARRANTY**, windscreen with a steel mounting thread and a USB cable for communication with PC. The instrument has an inbuilt 8 GB memory and a long-range Bluetooth® interface for communication with Assistant application. Each SV 104A has its factory calibration certificate and a **36-MONTH WARRANTY CARD**. The standard kit also includes license for PC software and Assistant application for smart-phones.

## Supervisor Software



Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational noise exposure from noise level measurements in accordance to all standards using TWA and DOSE such as OSHA, ACGIH, MSHA, NHO-01 or NR-15. The data files from the SV 104A can be used for calculation of all required measurement results and uncertainties in accordance to the three measurement strategies described in ISO 9612.

## Assistant Application



The SV 104A Bluetooth® interface enables current results to be previewed on a smart-phone or tablet using our **ASSISTANT APPLICATION**. The smart-phone application also signals an alarm when the set noise limits are exceeded.



## Optional functions



The option for **1/1 AND 1/3 OCTAVE** real-time analysis allows accurate and correct selection of hearing protectors. When presented as a spectrogram, the octave analysis can be used for quick verification of noise sources in the time history. It can be activated at any time, by ordering an activation code.



The **AUDIO EVENTS RECORDING** option works during measurement and is logged in parallel to time history so it can be played back in the PC software. The settings, like triggers or recording time, are adjustable. It can be activated at any time, by ordering an activation code.

## Optional accessories for SV 104A



SB 104B-1  
Docking Station for  
Single Dosimeter



SB 104B-5  
Docking Station  
for 5 Dosimeters



SA 147  
Waterproof  
Carrying Case



SV 34A  
Class 2 Acoustic  
Calibrator



SA 122A  
Spare Windscreen



## SV 104A Technical Specifications

Standards	IEC 61252 ed1.1 (2002); ANSI S1.25-1991 (R2007) Class 2 IEC 61672-1 ed2.0 (2013)
Weighting Filters	A, C and Z
Time Constants	Slow, Fast, Impulse
Exchange Rates	2, 3, 4, 5, 6
Measurement Results	L <sub>xy</sub> (SPL), L <sub>x</sub> eq (LEQ), L <sub>x</sub> peak (PEAK), L <sub>xy</sub> max (MAX), L <sub>xy</sub> min (MIN), where x - weighting filter A/ C/ Z; y - time constant Fast/ Slow/ Impulse L <sub>c</sub> -a, DOSE, DOSE_8h, PrDOSE, LAV, LAE (SEL), LAE8 (SEL8), PLAE, (PSEL), E, E_8h, LEPd, PTC (PEAK COUNTER), PTP (PEAK THRESHOLD %), ULT (UPPER LIMIT TIME), TWA, PrTWA, LN (LEQ STATISTICS), Measurement time, OVL (OVERLOAD TIME %), No Motion Time
Measurement Profiles	3 with independent settings of filters (x) and time constants (y)
Microphone	ST 104A MEMS microphone, 1/2" housing, patented
Linear Operating Range	53 dBA RMS ÷ 141 dBA Peak (in accordance to IEC 61672)
Total Dynamic Range	43 dBA RMS ÷ 141 dBA Peak (typical from noise floor to the maximum level)
Dynamic Range	98 dB
Frequency Range	20 Hz ÷ 10 kHz
Data Logging <sup>1</sup>	Summary results for measurement time Time-history logging of Leq/Max/Min/Peak and octave spectrum with 1s logger step
Voice Comments	Audio records on demand, created before or after measurement, added to a measurement file
Audio Recording <sup>1</sup> (optional)	Audio events recording, trigger and continuous mode, 12 or 24 kHz sampling rate, WAV format
1/1 Octave <sup>1</sup> (optional)	Real-time analysis in octave band filters, Class 1 IEC 61260; 9 filters with center frequencies from 31.5 Hz to 8 kHz
1/3 Octave <sup>1</sup> (optional)	Real-time analysis in 1/3 octave band filters, Class 1 IEC 61260; 28 filters with center frequencies from 20 Hz to 10 kHz
Display	Colour OLED 128 x 64 pixels
Ingress Protection	IP 65
Memory	8 GB
Interfaces	USB 2.0 client, electrical contacts (SB 104B-1 and SB 104B-5 docking station compatible) Long-range Bluetooth®, 4.0 Smart
Keyboard	3 push buttons
Power Supply	Li-Ion rechargeable cell operation time > 48 hours <sup>2</sup>
Environmental Conditions	USB interface 500 mA HUB Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed
Dimensions	88 x 49.5 x 19.2 mm
Weight	121 grams

<sup>1</sup>function parallel to the meter mode

<sup>2</sup>depending on configuration and environmental conditions

The policy of our company is to continually innovate and develop our products. Therefore, we reserve the right to change the specifications without prior notice.

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