

Environmental Noise & Vibration Product Catalogue

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Occupational Noise & Vibration Product Catalogue

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Environmental Noise & Vibration Product Catalogue 2017/2018





About SVANTEK

SVANTEK specialises in the design and manufacture of professional instrumentation for the measurement and analysis of sound & vibration. Established in Warsaw, Poland in 1990, SVANTEK now supplies products across 50 countries, worldwide. With 25 years of industry experience, the company has established itself as one of the leading innovators in sound & vibration products, with a global reputation for producing some of the most accurate and reliable instruments on the market.

The first monitoring station SV 210 from SVANTEK has been introduced in 2004. Since that time, the line of Svantek products such as the SV 258 4-Channel Noise & Vibration Monitoring Station and SV 200 All In One Noise Monitoring Station made a great impact on the noise and vibration exposure measurements techniques.

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SV 200A Noise Monitoring Station

SV 200A is a new **NOISE MONITORING STATION** designed for a permanent noise monitoring with the community & airport characteristics available simultaneously.

Following **ISO 1996-2** requirements, the SV 200A is using the **ELECTROSTATIC ACTUATOR** to perform the periodic system check. The advantage of using electrostatic actuator method is **CHECK OF THE COMPLETE MEASUREMENT CHAIN** including the microphone membrane and its sensitivity.

Four optional microphones located on sides of the housing use the sound intensity technique to detect the **DIRECTION** of a **DOMINANT NOISE SOURCE**.

Station can perform a real-time frequency analysis in **1/1** and **1/3 OCTAVE** bands and save it as time-history data. Additionally it can record the **AUDIO SIGNAL** for **NOISE SOURCES RECOGNITION**.

An OLED display and 5 push-buttons enable the results **PREVIEW** and measurement parameters **CONFIGURATION**.

The SV 200A has an internal Li-Ion battery and interface for connecting solar panels. A **WATERPROOF** mains adapter for charging the battery and powering the station is also included.

The system is specially designed for **EASY INSTALLATION** - SV 200A is easy to install by a single person.

The **LARGE WINDSCREEN** is highly efficient in reduction of a wind noise effects even at high wind speeds. Metal spikes protect station against birds.

The **WEATHERPROOF** housing protects the SV200A noise monitoring station against extreme weather conditions while fulfilling **CLASS 1 ACCURACY**.

The accurate **GPS** module provides information on the localization as well as measurement **TIME SYNCHRONIZATION**.

E-COMPASS provides with a simple orientation in relation to the Earth's magnetic field. As a result, the SV200A always knows which way is North so it can auto detect the dominant source direction regardless of the physical orientation.

The **3G MODEM** and **LAN** provide fast data transfer over the Internet to PC with standard Internet **connectivity**.

The **Bluetooth®** and **Wireless LAN** provide **access point** for an easy configuration with the SvanNET Application.

About

The SV200A is a new noise monitoring station dedicated for permanent noise monitoring. With four additional microphones the SV 200A is able to detect the direction of the dominant noise source. The monitoring station has been equipped with a various options for connection including 3G, LAN, Wireless LAN and Bluetooth®.



SV 200A Technical Specifications

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013, Class 1: IEC 61260:1:2014 |
| Weighting Filters | A, C, Z |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB Time constants: Slow, Fast, Impulse |
| Microphone | Microtech Gefell MK 255, 50 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | Integrated |
| Linear Operating Range | 25 dBA RMS ÷ 133 dBA Peak (in accordance to IEC 61672) |
| Dynamic measurement range | 15 dBA RMS ÷ 133 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Frequency Range | 3.5 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Statistics | $L_n (L_1-L_{99})$, complete histogram in meter mode and 1/1 & 1/3 octave analysis Simultaneous measurement in three profiles with independent set of filters and detectors |
| 1/1 Octave Analysis ³ | Real-time analysis meeting class 1 requirements of IEC 61260 (4 Hz ÷ 16 kHz) |
| 1/3 Octave Analysis ³ | Real-time analysis meeting class 1 requirements of IEC 61260 (3.15 Hz ÷ 20 kHz) |
| Noise Directivity ⁵ (optional) | Maximum noise energy directivity measurements in both azimuth and altitude directions including noise energy distribution vectors |
| Data Logger | Logging of summary results, spectra and weather data with logging step down to 1 s and time history of selected parameters with short logging step down to 2 ms |
| Audio Events Recording ³ | Time domain records to wav file format on demand with selectable bandwidth and recording period |
| Ingress Protection Rating | IP 65 |
| Inputs | Power supply LEMO 3-pin, extended I/O port LEMO 10-pin |
| Remote system check | Built-in electrostatic actuator, triggered manually or in automated mode |
| Memory | 16 GB (non-removable) |
| Display & Keyboard | 1.1" OLED display and 5 push-buttons keyboard |
| Communication interfaces | USB, RS 232, UART (TTL), LAN, Bluetooth®, GPS, 3G modem, WLAN |
| Power Supply | Li-Ion rechargeable battery (non-removable) Operation time on battery (10.8 V / 6.7 Ah) SV200A (modem off) up to 6 days SV200A with 3G on up to 5 days ¹ Solar Panel (not included) MPPT voltage 17.0 V ÷ 20.0 V AC power supply (included) Input 100 ÷ 240 VAC, output +24 VDC 2.5 A, IP 66 housing External DC source (not included) voltage range 10.5 V – 24 V, e.g. 12 V or 24 V accumulator ⁴ from -30 °C ² to 50 °C |
| Environmental Conditions | Temperature up to 99 % RH Humidity |
| Dimensions | 860 mm length (total); 70 mm diameter excluding windscreen (windscreen diameter 130 mm) 3.2 kg weight |

¹ meter mode, time history logging step 1 second, 3G modem transmission 10 % of the measurement time

² only with external powering

³ function operates together with sound level meter mode

⁴ 15 V required for internal battery recharging

⁵ function under development

SV 200A All in One Noise Monitoring Station

The SV200A is a Class 1 sound level meter integrated with a wireless communication via 3G, LAN, Wireless LAN and Bluetooth®. The list of add-ons also includes an inbuilt electrostatic actuator, GPS module and e-compass. The waterproof power supply is also provided.

SvanNET Service

SvanNET is a relay server supporting connection between PC and SV 200A in case of 3G communication. The SvanNET allows usage of all types of SIM cards with the SV 200A modem regardless if they have public or private IP. The connection over the SvanNET allows users to:

- use a mobile phone, tablet or any device with a web browser to watch real time measurement results, manually download files and reconfigure the station,
- manually download files and reconfigure the station using SvanPC++_RC module,
- use the SvanPC++_RC application based on MS Windows® for automatic control of the noise monitoring stations, data archiving, automatic web publication, etc.

FTP push - in this mode the SV200A modem is put into standby (sleep) and wakes up at a user-defined time schedule to send measurement files to data server (data push). During this process the SV 200A also checks if the user has changed the measurement settings (configuration pull). Data push / configuration pull process can be initiated at any time by sending SMS to the station.

SvanPC++ Remote Communication software package offers advanced features such as automatic data download, CSV and HTML data publishing as well as FTP upload. The SvanPC++_RC module supports configuration of the monitoring station as well as configuration of advanced alarms that combine triggers based on time with noise thresholds.

SvanNET Application uses Bluetooth® or Wireless LAN access point for an easy configuration of the SV 200A for the connection with the SvanNET or other Wireless LAN networks.

Optional software



SvanPC++ Environmental Measurements module is designed for post-processing of data recorded by the monitoring station. The module offers a powerful calculator and an automated noise event finder for noise source identification. Thanks to its "Projects" functionality, SvanPC++_EM allows to combine and compare data from multiple measurements as well as create and save reports in MS Word™ templates. It can be activated at any time by ordering the activation code or hardware key.

Optional accessories



SV 209
Weather Station
based on
VAISALA module



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB



SC 254
LAN
Communication
Cable



SV 279 PRIME Noise Monitoring Station

SV 279 PRIME is a portable monitoring station housed in a waterproof case dedicated for periodic **OUTDOOR** measurements.

The system is based on the **SVAN 979** which can be easily removed from the case and used as a hand-held sound level meter.

SVAN 979 is a Class 1 **TYPE APPROVED** sound level meter in accordance with IEC 61672-1 standard.

The **TIME-HISTORY** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on 8 GB microSD card (upgradeable to 128 GB).

Station can perform a real-time frequency analysis in **1/3 OCTAVE** bands and save it as time-history data.

The **AUDIO RECORDING** works during measurement and is logged as a WAV file in parallel to the time-history, so it can be played back in the PC software. Settings such as triggers or the recording time are adjustable.

Station uses a waterproof **CHARGER** that is designed for outdoor use.

Station can be powered from an internal battery or external DC power supply and is ready for direct connection of **SOLAR PANEL**. The powering is managed by the intelligent charging unit.

The **LARGE WINDSCREEN** is highly efficient in the reduction of a wind noise effects even at high wind speeds.

The accurate **GPS** module provides an information on the localization as well as measurement **TIME SYNCHRONIZATION**.

Station supports an optional **METEO** module for assessment of weather conditions such as wind, temperature, humidity, ambient pressure or rainfall.

The **3G MODEM** provides the fast data transfer over the Internet to PC with the standard Internet connectivity.

Once the SIM card is inserted the remote communication settings are automatically adjusted to connect to the **SvanNET**.

The **Wireless LAN** provide an **access point** for the easy configuration with the SvanNET Application.

About

SV 279 PRIME is an outdoor monitoring system based on the SVAN 979 Class 1 sound level meter. The IP 65-rated case contains a lead-acid battery which operating time can be easily extended by connecting an external battery or solar panel. The intelligent charging unit enables use of a solar panel without expensive controllers and heavy batteries.

The case is fitted with very robust, waterproof connectors (military standard) and is supplied with an IP 65 external power supply.

The light-weight outdoor microphone kit can be easily installed on a mast with standard mounting threads. All accessories fit conveniently into a second carrying case.

The system provides broad-band results such as Leq, Max, Min and Peak with all standard weighting filters together with an incredible time-history logging feature with two adjustable logging steps.

The SV 279 PRIME is equipped with a LAN, Wireless LAN and 3G modems. The Wireless LAN communication can provides an easy way for configuration of the 3G connection.

SvanNET is a relay service that supports the connection between PC and station. It allows the usage of the system with all types of SIM cards, regardless if they have public or private IP. Additionally, it gives an access to a status of monitoring stations over a mobile phone or tablet.



Technical Specifications

SVAN 979 Sound Level Meter & Analyser

| | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013; Class 1: IEC 61260:1:2014 |
| Meter Mode | Elapsed time, Lxy (SPL), Lx _{eq} (LEQ), Lx _{peak} (PEAK), Lx _{ymax} (MAX), Lx _{ymin} (MIN), Ovl (OVERLOAD %), Lx _{ye} (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Analyser | 1/1 or 1/3 octave real-time analysis Pure tone detection meeting ISO 1996-2 (Tonality option) User programmable second order band pass filters (option) |
| Audio Recording | Time domain signal recording to WAV signal, continuous or triggered Sampling rate: 12/24/48 kHz with 24-bit resolution |
| Weighting Filters | A, C, Z, B, G |
| RMS Detector | Digital true RMS detector with peak detection, resolution 0.1 dB |
| Detector Time Constants | Slow, Fast, Impulse |
| Microphone | GRAS 40AE, 50 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 17 Voltage type (supports 200 V polarisation) |
| Linear Operating Range | 22 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Dynamic Measurement Range | 12 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 12 dBA RMS |
| Frequency Range | 3.15 Hz ÷ 20 kHz, with GRAS 40AE microphone |
| Data Logger | Time-history logging with two adjustable logging steps down to 2 milliseconds |
| Memory | microSD 8GB (removable and upgradeable to 128 GB) |



SV 279 PRIME Monitoring Station

| | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication | 3G modem, LAN, Wireless LAN |
| Power Supply | Waterproof DC power supply 15 V , 60 W (acceptable voltage range 11 V ÷ 30 V) Internal battery 17 Ah / 12 V Secondary external battery 33 Ah / 12 V (optional) Solar panel (optional) |
| Operating time on battery | 4 days with continuous 3G modem transmission 8 days with modems switched off Test conditions: meter mode, display dimmed, 2 ms time-history logger, continuous event recording |
| Microphone protection kit | SA 279 outdoor protection kit (IP 65) |
| Environmental Conditions | Temperature -10 °C ÷ +50 °C |
| Dimensions | 305 x 270 x 194 mm (without cables) |
| Weight | Approximately 9 kg including battery |



Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.



What's inside the SV 279 PRIME?

The SV279 PRIME kit consists of two carrying cases. The main unit is a waterproof carrying case with internal 17 Ah battery and a charging unit supporting powering from an external DC or solar panel. The monitoring case is equipped with GPS module and modems for 3G, LAN and Wireless LAN communication. The SVAN 979, Class 1 sound level meter with options for frequency analysis and audio recording is installed inside the main unit. The outdoor power supply and outdoor protection kit for microphone are packed inside the second transportation case. The kit includes license for SvanPC++ software and SvanNET base service. Each kit has its factory calibration certificate and 36 months warranty card.

PC Software



SvanNET is a relay service supporting connection between a PC and SV 279 PRIME. It allows usage of all types of SIM cards with the SV 279 PRIME modem regardless if they have public or private IP. The SvanNET provides a web interface that allows to watch real-time measurement results on a PC or mobile device, manually download files, reconfigure the station and check its status.



SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to a spread sheet or text editor applications. New version of SvanPC++ software also supports analysis of wave files from Svantek's instruments (for example calculation of tonality).

Optional functions



SvanPC++ Remote Communication software package offers advanced features such as automatic data download, CSV and HTML data publishing as well as FTP upload. The SvanPC++_RC module supports configuration of the monitoring station as well as configuration of advanced alarms that combine triggers based on time with noise thresholds. It can be activated at any time by ordering the activation code.



SvanPC++ Environmental Measurements module is designed for post-processing of data recorded by monitoring station. The module offers a powerful calculator and an automated noise event finder for noise source identification. Thanks to its "Projects" functionality, SvanPC++_EM allows to combine and compare data from multiple measurements as well as create and save reports in MS Word™ templates. It can be activated at any time by ordering an activation code or hardware key.

Optional accessories to SV 279 PRIME



SA 206
Mast for
Microphone
Protection Kit



SB 272
External Battery
to Monitoring
Station 33Ah



SB 271
Solar Panel
to Monitoring
Station



SP 275
Weather Station
based on
VAISALA module



SP 272
Alarm Lamp
to Monitoring
Station



SV 277 PRO Noise Monitoring Station

SV 277 PRO is a portable monitoring system housed in a waterproof case dedicated for periodic **OUTDOOR** measurements.

The station is based on a **SVAN 977A** which can be easily removed from the case and used as a hand-held sound level meter.

CLASS 1 noise measurements are performed over a very wide dynamic range - over 110 dB from 10 Hz up to 20 kHz.

The **TIME-HISTORY** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on 8 GB microSD card (upgradeable up to 128 GB).

The station can perform real-time frequency analysis in **OCTAVE** bands and save it as time-history data.

The **3G MODEM** provides data transfer over the Internet to PC with standard Internet connectivity.

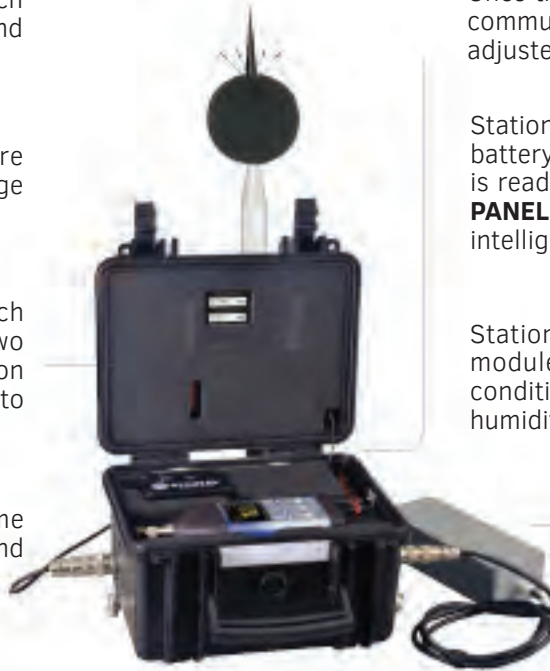
Once the SIM card is inserted, the remote communication settings are automatically adjusted to connect to **SvanNET**.

Station can be powered from an internal battery or external DC power supply and is ready for direct connection of a **SOLAR PANEL**. The powering is managed by the intelligent charging unit.

Station supports an optional **METEO** module for assessment of weather conditions such as wind, temperature, humidity, ambient pressure or rainfall.

Military standard **CONNECTORS** provide reliable, robust and waterproof cable connections.

Station uses waterproof **CHARGER** that is designed for outdoor use.



What's inside the SV 277 PRO

The SV 277 PRO kit consists of two carrying cases. The main unit is a waterproof carrying case with internal 17 Ah battery and internal charging unit supporting powering from external DC or solar panel. The SVAN 977A Class 1 sound level meter is installed inside.

The outdoor charger and outdoor microphone kit are packed inside the second transportation case. The kit includes license for SvanPC++ software and SvanNET base service. Each kit has its factory calibration certificate and 36 months warranty card.



About SV 277 PRO

SV 277 PRO is an outdoor monitoring system based on SVAN 977A Class1 sound level meter. The IP65-rated case contains a lead-acid battery which operating time can be easily extended by connecting an external battery or a solar panel. The intelligent charging unit enables use of a solar panel without expensive controllers or heavy batteries. The case is fitted with very robust, waterproof connectors (military standard) and is supplied with an IP 65 external power supply. The light-weight microphone protection kit can be easily installed on a mast with standard mounting threads. All accessories fit conveniently into a second carrying case. The system provides broad-band results such as Leq, Max, Min and Peak with all standard weighting filters together with an incredible time-history logging feature with two adjustable

logging steps. The broad-band results can be recorded in three acoustic profiles which enable measurements to be taken with 3 different filters (A, C, Z) as well as 3 different detector time constants (Fast, Slow, Impulse).

The monitoring station uses a 3G modem for the remote communication with Internet. SvanNET, a relay service, supports the connection between PC and station. The SvanNET allows the usage of all types of SIM cards with the system, regardless if they have public or private IP. The connection over the SvanNET allows users to use a mobile phone or tablet to check the status of the noise monitoring station.

The SVAN 977A can be easily removed from the case and used as a hand-held sound level meter.



Technical Specifications

SVAN 977A Sound Level Meter & Analyser

| | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013; Class 1: IEC 61260:1:2014 |
| Meter Mode | Elapsed time, Lxy (SPL), Lx _{eq} (LEQ), Lx _{peak} (PEAK), Lx _{ymax} (MAX), Lx _{ymin} (MIN), Ovl (OVERLOAD %), Lx _{ye} (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Analyser | 1/1 or 1/3 octave real-time analysis (optional) |
| Audio Recording | Time domain signal recording to WAV signal, continuous or triggered (optional) Sampling rate: 12/24/48 kHz with 24-bit resolution |
| Weighting Filters | A, C, Z, B |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Detector Time Constants | Slow, Fast, Impulse |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 12L IEPE preamplifier |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Data Logger | Time-history logging with two adjustable logging steps down to 2 milliseconds |
| Memory | microSD card 8 GB (upgradeable to 128 GB) |



SV 277 PRO Noise Monitoring Station

| | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remote Communication | 3G modem |
| Power Supply | Waterproof DC power supply 15 V , 60 WATT (acceptable voltage range 11 V ÷ 30 V) Internal battery 17 Ah / 12 V Secondary external battery 33 Ah / 12 V (optional) Solar panel (optional) |
| Operating time on battery | 4 days with continuous modem transmission 8 days with modem switched off Test Conditions: meter mode, display dimmed, 2 ms time-history logger, continuous event recording |
| Microphone protection kit | SA 277 outdoor protection kit (IP 65) |
| Environmental Conditions | Temperature -10 °C ÷ +50 °C |
| Dimensions | 305 x 270 x 194 mm (without cables) |
| Weight | Approximately 9 kg including battery |



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SV 277 PRO Noise Monitoring Station Software



SvanNET is a relay service supporting connection between PC and SV277 PRO and allows usage of all types of SIM cards with the SV277 modem, regardless if they have public or private IP. The SvanNET provides a web interface that allows to watch real-time measurement results on a PC or mobile device, manually download files and reconfigure the station.



SvanPC++ is a PC software providing functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to spread sheet or text editor applications.

Optional functions



SvanPC++ Remote Communication software package offers advanced features such as automatic data download, CSV and HTML data publishing as well as FTP upload. The SvanPC++_RC module supports configuration of the monitoring station as well as configuration of advanced alarms that combine triggers based on time with noise thresholds. It can be activated at any time by ordering the activation code.



SvanPC++ Environmental Measurements module is designed for post-processing of data recorded by monitoring station. The module offers a powerful calculator and an automated noise event finder for noise source identification. Thanks to its "Projects" functionality, SvanPC++_EM allows to combine and compare data from multiple measurements as well as create and save reports in MS Word™ templates. It can be activated at any time by ordering an activation code or hardware key.



The option for **1/3 octave REAL-TIME** analysis allows the analysis of the noise frequency contents. The statistical analysis in 1/3 octave band is used for verification of noise sources in the environment. It can be activated at any time by ordering the activation code.



The option of **TIME DOMAIN SIGNAL RECORDING** to WAVE format works during measurement and is logged in parallel to a time history. Once downloaded to PC it can be played back. Settings such as triggers or recording time are adjustable. In addition to audio play-back, WAVE file can be post-processed in SvanPC++ software that provides calculation of overall results such as Leq, Lmax, Lmin, Lpeak as well as 1/3 octave and FFT calculations or tonality. It can be activated at any time by ordering the activation code.

Optional accessories to SV277 PRO



SA 206
Mast for
Microphone
Protection Kit



SB 272
External Battery
to Monitoring
Station 33Ah



SB 271
Solar Panel
to Monitoring
Station



SP 275
Weather Station
based on
VAISALA module



SP 272
Alarm Lamp
to Monitoring
Station



SV 271 LITE Noise Monitoring Station

SV 271 LITE is a portable monitoring system housed in a waterproof case dedicated for periodic **OUTDOOR** measurements.

The station is based on the **SVAN 971** which can be easily removed from the case and used as a hand-held sound level meter.

SVAN 971 is a Class 1 **TYPE APPROVED** sound level meter in accordance with the IEC 61672-1 standard.

The **TIME-HISTORY** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on a 8 GB microSD card (upgradeable up to 128 GB).



The light-weight microphone protection kit gives an easy access for calibration with an acoustic calibrator. Once the calibration signal is detected, the system starts the **AUTO-CALIBRATION**.

The **LARGE WINDSCREEN** is highly efficient in the reduction of a wind noise effects even at high wind speeds.

Military standard **CONNECTORS** provide reliable, robust and waterproof cable connections.

Station uses a **WATERPROOF CHARGER** that is designed for outdoor use.

Station can be powered from the internal battery or external DC power supply and is ready for direct connection of a **SOLAR PANEL**. The powering is managed by the intelligent charging unit.

About

SV 271 LITE is an outdoor monitoring system based on the type-approved SVAN 971 Class 1 sound level meter. The IP 65-rated case contains a lead-acid battery which operating life can be easily extended by connecting an external battery or a solar panel. The intelligent charging unit enables use of a solar panel without expensive controllers or heavy batteries. The case is fitted with very robust, waterproof connectors (military standard) and is supplied with an IP 65 external power supply. The light-weight microphone protection kit can be easily installed on a mast with standard mounting threads. All accessories fit conveniently into a second carrying case.

The system provides broad-band results such as Leq, Max, Min and Peak with all standard weighting filters together with an incredible time-history logging feature with two adjustable logging steps. The broad-band results can be recorded in three acoustic profiles which enable measurements to be taken with 3 different filters (A, C, Z) as well as 3 different detector time constants (Fast, Slow, Impulse). The SVAN 971 can be easily removed from the case and used as hand-held sound level meter.



Technical Specifications

SVAN 971 Sound Level Meter & Analyser

| | |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013; Class 1: IEC 61260:1:2014 |
| Weighting Filters | A, B, C, Z |
| Time Constants | Slow, Fast, Impulse |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 18 detachable |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Total Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Dynamic Range | >110 dB |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), LR (ROLLING LEQ OPTION), Ovl (OVERLOAD), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 |
| Statistics | Simultaneous measurement in three profiles with independent set of filters (x) and Detectors (y) $L_n (L_1-L_{99})$, complete histogram in meter mode |
| Audio Recording (optional) | Audio events recording, trigger and continuous mode, 12 kHz sampling rate, wav format |
| 1/1 Octave Analysis (optional) | Real-time analysis meeting Class 1 requirements of IEC 61260, center frequencies from 31.5 Hz to 16 kHz |
| 1/3 Octave Analysis (optional) | Real-time analysis meeting Class 1 requirements of IEC 61260, center frequencies from 20 Hz to 20 kHz |
| Data Logger | Time-history logging of summary results, spectra with adjustable double logging steps down to 100 ms |
| Memory | MicroSD card 8 GB (removable & upgradeable up to 128 GB) |



SV 271 LITE Noise Monitoring Station

| | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Supply | Waterproof DC power supply 15 V , 60 W (acceptable voltage range 11 V ÷ 30 V) Internal battery 17 Ah / 12 V Secondary external battery 33 Ah / 12 V (optional) Solar panel (optional) |
| Operating time on battery | Up to 21 days Test conditions: meter mode, display dimmed, 100 ms time-history logger, continuous event recording |
| Microphone protection kit | SA 271 outdoor protection kit (IP 65) |
| Environmental Conditions | Temperature -10 °C ÷ +50 °C |
| Dimensions | 305 x 270 x 194 mm (without cables) |
| Weight | Approximately 9 kg including battery |



Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.



What's inside the SV271 LITE?

The SV271 LITE kit consists of two carrying cases. The main unit is a waterproof carrying case with internal 17 Ah battery and internal charging unit supporting powering from external DC or solar panel. The SVAN 971 Class 1 sound level meter is installed inside. The outdoor charger and outdoor microphone kit are packed inside the second transportation case. The kit includes license for SvanPC++ software and has its factory calibration certificate and 36 months warranty card.



PC Software

SvanPC++ is a PC software providing functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to spread sheet or text editor applications.

Optional functions



The option for **1/1 OR 1/3 OCTAVE REAL-TIME ANALYSIS** allows the analysis of the noise frequency contents. It can be activated at any time by ordering an activation code.



The option of **EVENT RECORDING** works during measurement and is logged in parallel to time history. Once downloaded to PC it can be played back. Settings such as triggers or recording time are adjustable. It can be activated at any time by ordering an activation code.



SvanPC++ ENVIRONMENTAL MEASUREMENTS module is designed for post-processing of data recorded by monitoring station. The module offers a powerful calculator and an automated noise event finder for noise source identification. Thanks to its "Projects" functionality, SvanPC++_EM allows to combine and compare data from multiple measurements as well as create and save reports in MS Word™ templates. The module can be activated at any time by ordering the activation code or hardware key.

Optional accessories to SV271 LITE



SA 206
Mast for
Microphone
Protection Kit



SB 272
External Battery
to Monitoring
Station 33Ah



SB 271
Solar Panel
to Monitoring
Station



SV 35A
Class 1 Acoustic
Calibrator
94 dB / 114 dB at
1 kHz



SV 258 PRO Building Vibration & Noise Monitoring Station

SV 258 PRO is a portable monitoring system dedicated for **BUILDING VIBRATION** measurement in accordance with the **DIN** and **BS** standards.

Station is fully configurable to measurement of **HUMAN VIBRATION** in buildings in accordance to ISO 2631-1, BS 6472, DIN 4150-2.

Station uses waterproof **CHARGER** that is designed for outdoor use.

Military standard **CONNECTORS** provide reliable, robust and waterproof cable connections.

The **3G MODEM** provides fast data transfer over the Internet to PC with standard Internet connectivity.

SMS and **E-MAIL** alarms can be configured based on vibration or noise levels.

SvanNET provides web interface for instrument control, results preview and data download.

Peak Particle Velocity (**PPV**), PPV Vector Sum and Vibration Dose Value (**VDV**) are measured simultaneously in **THREE AXES**.

The **TIME-HISTORY LOGGING** of vibration velocity results (PPV) and acceleration (VDV) is performed simultaneously.

An additional measurement channel is available for **CLASS 1 NOISE** measurements in parallel to tri-axial vibration measurements.

The station is based on **SVAN 958A** which can be easily removed from the case and used as hand-held sound and vibration level meter.

Station can be powered from internal battery or external DC power supply and is ready for direct connection of **SOLAR PANEL**. The powering is managed by the intelligent charging unit.

The **LOW-NOISE**, hermetically sealed tri-axial piezoelectric accelerometer enables an outdoor use without additional enclosures.



About

SV258 PRO is an outdoor monitoring system based on the SVAN 958A four channel sound & vibration level meter. The portable and battery powered station can be used for a variety of monitoring applications including construction site monitoring, tunneling and blasting. The IP65-rated case contains a lead-acid battery which operating time can be easily extended by connecting an external battery or small solar panel. The intelligent charging unit enables use of a solar panel without expensive controllers and heavy batteries.

The case is fitted with very robust, waterproof connectors (military standard) and comes with an IP65 external power supply. The system uses a low-noise, hermetically sealed tri-axial piezoelectric accelerometer enabling the outdoor use without additional enclosures. The accelerometer's signal ground is insulated from the mounting surface and outer case to prevent ground loops. All accessories fit conveniently into a second carrying case.

The system provides broad-band vibration results such as RMS and Peak or Peak-Peak. Optionally it can use FFT analysis for determination of dominant frequency used for comparison with the BS and DIN norm curves.

The broad-band noise results can be recorded simultaneously in three acoustic profiles, which enable measurements to be taken with 3 different filters (e.g. A, C, Z) as well as 3 different detector time constants (e.g. Fast, Slow, Impulse).

The SVAN 958A can be easily removed from the case and used as hand-held vibration and sound level meter.

The monitoring station uses the 3G modem for the remote communication with Internet. SvanNET, the relay service, supports the connection between PC and station allowing the usage of all types of SIM cards with the system, regardless if they have public or private IP. The connection over the SvanNET gives access to the status of the noise monitoring station via mobile phone or tablet.



What's inside the SV 258 PRO

The SV 258 PRO kit consists of two carrying cases. The main unit is a waterproof carrying case with internal 17 Ah battery and internal controller supporting powering from external DC or solar panel.

The SVAN958A Class 1 vibration and sound level meter is installed inside the main unit. The outdoor charger and vibration accelerometer are packed inside the second transportation case. The kit includes license for SvanPC++ software and SvanNET base account service. Each kit has its factory calibration certificate and 36 months warranty card.

Technical Specifications

SVAN 958A Vibration Level Meter & Analyser

| | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meter Mode | RMS, VDV, MTVV or Max, Peak, Peak-Peak, Vector, A(8), Dose, ELV, EAV |
| Profiles Per Channel | 2 (in Ground Vibration mode) |
| Analysers (optional) | 1/1 octave real-time analysis 1/3 octave real-time analysis FFT analysis up to 1600 lines in a selectable frequency band Time domain signal recording to WAV format |
| Filters In Profile 1 | HP1, HP3, HP10, VEL1, VEL3, VEL10, VELMF, DIL1, DIL3, DIL10, KB, W_k , W_d , W_c , W_j , W_m , W_h , W_g , W_b , W_v |
| Filters In Profile 2 | VEL1, VEL3, VEL10 |
| RMS & RMQ Detectors | Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB |
| Detector Time Constants | From 100 ms to 10 s |
| Accelerometer | SV 84 triaxial high sensitivity (1 V/g) |
| Measurement Range | SV 84: 0.0005 ms ⁻² RMS ÷ 50 ms ⁻² PEAK (accelerometer dependent) |

SVAN 958A Sound Level Meter & Analyser (optional)

| | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013 |
| Profiles Per Channel | 3 |
| Meter Mode | Elapsed time, Lxy (SPL), Lx _{eq} (LEQ), Lx _{peak} (PEAK), Lx _{ymax} (MAX), Lx _{ymin} (MIN), Ovl (OVERLOAD %), Lx _{ye} (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 |
| Analysers (optional) | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) 1/1 octave real-time analysis, (Class 1, IEC 61260) 1/3 octave real-time analysis, (Class 1, IEC 61260) FFT analysis up to 1600 lines in selectable frequency band |
| Weighting Filters | A, C, Z, G |
| RMS Detector | Digital true RMS detector with Peak detection, resolution 0.1 dB |
| Detector Time Constants | Slow, Fast, Impulse |
| Microphone (optional) | MK 255, Class 1, 50 mV/Pa, prepolarised 1/2" |
| Preamplifier (optional) | SV 12L detachable |
| Measurement Range | 16 dBA RMS ÷ 140 dBA Peak (Total Dynamic Range) |
| Linearity Range | 26 dBA RMS ÷ 140 dBA Peak (IEC 61672) |
| Frequency Range | 0.5 Hz ÷ 20 kHz (microphone dependent) MK 255: 3.5 Hz ÷ 20 kHz |

SV 258 PRO Technical specifications

| | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Remote Communication | 3G modem |
| Power Supply | Waterproof DC power supply 15 V, 60 W (acceptable voltage range 11 V ÷ 30 V) Internal battery 17 Ah / 12 V Secondary external battery 33 Ah / 12 V (optional) Solar panel (optional) |
| Operating time on battery | 3 days with continuous modem transmission 7 days with modem switched off Test conditions: meter mode, display dimmed, 10 ms time-history logger |
| Microphone protection kit | SV 208A Outdoor Sound Measurement Kit (optional) |
| Environmental Conditions | Temperature -10 °C ÷ +50 °C |
| Dimensions | 305 x 270 x 194 mm (without cables) |
| Weight | Approximately 9 kg including battery |
| Accelerometer | SV 84 triaxial high sensitivity (1 V/g) |



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SV 258 PRO Vibration Monitoring Station Software



SvanNET is a relay service supporting connection between PC and SV 258 PRO and allows usage of all types of SIM cards with the SV 258 PRO modem regardless if they have public or private IP. The SvanNET provides a web interface that allows to watch real-time measurement results on a PC or mobile device, manually download files, reconfigure the station and check its status.



SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to a spread sheet or text editor applications. New version of SvanPC++ software also supports analysis of wave files from Svantek instruments (for example calculation of tonality).

Optional functions



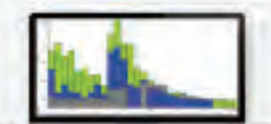
SvanPC++ REMOTE COMMUNICATION software package offers advanced features such as automatic data download, CSV and HTML data publishing as well as FTP upload. It also supports configuration of the monitoring station as well as simultaneous download from multiple stations. It can be activated at any time by ordering the activation code.



The optional **FFT** is used for **DOMINANT FREQUENCY** determination. Data files containing information about the dominant frequency are used for comparison with the BS and DIN norm curves in standard SvanPC++ software. It can be activated at any time by ordering the activation code.



In building / ground vibration mode the **1/1 OCTAVE ANALYSIS** is recorded as vibration velocity RMS spectrum. It can be activated at any time by ordering the activation code.



The **1/3 OCTAVE ANALYSIS** is available as an alternative to building / ground vibration mode. It enables to perform 1/3 octave spectrum analysis for all noise or vibration channels. It can be activated at any time by ordering the activation code.

Optional accessories to SV 258 PRO



SV 208
Sound
Measurement Kit



SA 206
Tripod for
Outdoor
Microphone Kit



SV 33A
Class 1 Acoustic
Calibrator
114 dB at 1 kHz



SB 272
External Battery
33 Ah to
Monitoring Station



SV 111
Vibration
Calibrator



SA 154
Calibration
Adapter to SV 84
accelerometer



SVAN 979 Sound & Vibration Analyser

The SVAN979 is a **CLASS 1 TYPE APPROVED** Sound Level Meter and Analyser with the superior technical specifications. Its measuring range starts from as low as **12 dBA!**

Signal input consists of high quality omnidirectional GRAS 40 AE microphone allowing sound measurements from **3.15 Hz**. Thanks to SV 17 preamplifier it is also possible to use microphones requiring **200 V** polarisation voltage.

The preamplifier has been **REINFORCED** with a metal collar for additional protection of the measurement path.

SVAN 979 can be used as a **VIBRATION** meter - simply by connecting a cable and a vibration sensor.

OLED 2.4" color display (320 x 240 pixels) provides a **SUPER CONTRAST VISIBILITY** even in sunny weather.

Aluminum **ROBUST** housing gives the comfort of a secure grip to the user and protects the hardware against the electromagnetic interference.

SVAN 979 is powered from 4xAA **RECHARGEABLE** batteries which come with a dedicated charger. External power supply is also provided.

Two dedicated interfaces provide capability of cooperation with two external devices at the same time, for example **GPS** device and **3G** modem (optional accessories).

The frequency analyser offers **1/1 AND 1/3 OCTAVE** real-time analysis and **FFT**.

Time signal recording with **48 kHz** enables **AUDIO LISTENING** as well as **WAVE** recalculation in SvanPC++ software.

RT60, SIGNAL GENERATOR, millisecond spectra logging allows users to perform all the measurements necessary to obtain facade, airborne or impact **SOUND INSULATION** results. The measurement is supported by the smartphone application.

Built-in **Bluetooth®** interface provides additional advantages such as device configuration by usage of a smartphone or tablet with Android platform and **SvanMobile** application.



Standard kit includes 8 GB **microSD** card which can be easily exchanged to a card with maximum storage capacity of **128 GB**.



About

SVAN 979 is a device combining all necessary measurement functionalities in one hand-held tool.

The instrument is dedicated for acoustic engineering applications such as sound insulation measurements, precise frequency or signal tonality analysis.

In standard, this sophisticated tool has been equipped with frequency analysis in 1/1 & 1/3 octave bands, FFT analysis and audio recording for noise source recognition. Basic kit

also includes building acoustic pack: RT 60 measurement and signal generator functions.

Additional options such as Tonality or unique 1/6 & 1/12 octave analysis make this unit a complete accessory for acoustic engineers.

Thanks to implementation of the G weighting filter, the instrument is a perfect choice for measurements on wind farms where infrasound measurements are often necessary.

SVAN 979 Technical Specifications

Sound Level Meter & Analyser

| | |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class1: IEC 61672-1:2013; Type Approved; Class 1: IEC 61260:1:2014 |
| Meter Mode | Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), Ovl (OVERLOAD %), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 |
| Analysers | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) 1/1 or 1/3 octave ¹ real-time analysis; 1/6 or 1/12 octave ¹ real-time analysis (optional) FFT ¹ 1600 lines, up to 20.0 kHz band; Reverberation time analysis in 1/1 or 1/3 octave bands (RT 60) Loudness ¹ based on ISO 532B standard and Zwicker model (optional) Pure tone detection meeting ISO 1996-2 (Tonality ¹ optional) User programmable second order band pass filters ¹ (optional) |
| Weighting Filters | A, C, Z, B, G |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Detector Time constants | Slow, Fast, Impulse |
| Microphone | GRAS 40AE, 50 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 17 Voltage type (support 200V polarisation) |
| Linear Operating Range | 22 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Total Dynamic Range | 12 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | Less than 12 dBA RMS |
| Frequency Range | 3.15 Hz ÷ 20 kHz, with GRAS 40AE microphone |

Vibration Level Meter & Analyser

| | |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | ISO 20816-1 |
| Meter Mode | RMS, MAX, Peak, Peak-Peak |
| Analysers | Simultaneous measurement in three profiles with independent set of filters and detectors 1/1 or 1/3 octave ¹ real-time analysis; 1/6 or 1/12 octave ¹ real-time analysis (optional) FFT ¹ real-time analysis 1600 lines, up to 20.0 kHz band RPM ¹ rotation speed measurement parallel to the vibration measurement (optional) User programmable second order band pass filters ¹ (optional) |
| Filters | HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, Wh |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Detector Time constants | From 100 ms to 10 s |
| Accelerometer (optional) | Any IEPE accelerometer |
| Measurement Range | Transducer dependent |
| Frequency Range | 0.5 Hz ÷ 22.4 kHz (transducer dependent) |

General Information

| | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | LEMO 7-pin: Direct AC, Direct AC with 200 V polarisation, Direct DC or IEPE type with TEDS |
| Self-vibration Monitoring | Built-in |
| Dynamic Range | 115 dB |
| Frequency Range | 0.5 Hz ÷ 22.4 kHz, sampling rate 48 kHz |
| Data Logger | Time-history logging with logging step down to 2 millisecond, Time-domain signal recording and audio events recording function |
| Signal Generator | Sine, White noise, Pink noise |
| Display | Super contrast (10000:1) OLED 2.4" colour display (320 x 240 pixels) |
| Memory | micro SD card 8 GB (included) |
| Interfaces | USB 1.1 Client, USB 1.1 Host, Bluetooth, RS 232 (with optional SV 55) GPS time synchronisation and positioning (optional) |
| Power Supply | Extended I/O - AC output (1 V Peak) or Digital Input/Output (Trigger – Pulse) Four NiMH AA rechargeable batteries (included) operation time > 8 h ÷ 12 h (4.8 V / 2.6 Ah) ² SA 17A external battery pack (optional) operation time > 24 h ² External power supply 6 V/500 mA DC ÷ 15 V/250 mA DC USB interface 500 mA HUB |
| Environmental Conditions | Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed |
| Dimensions | 310 x 79 x 39 mm (with microphone and preamplifier) |
| Weight | Approx. 0.6 kg with batteries |

¹function works together with meter mode

²depends on instrument operation mode



What's inside the SVAN 979 kit?

The kit consists of SVAN 979 Class 1 sound & vibration level meter with a detachable preamplifier SV 17 and high quality omni-directional GRAS 40AE microphone, compliant to IEC 61094-4. The list of accessories includes: SA 143 carrying case, SA 22 windscreen, 8 GB microSD card, four rechargeable AA batteries, USB cable, and CD with user manual. Each SVAN 979 has its factory calibration certificate and 36 months warranty card.



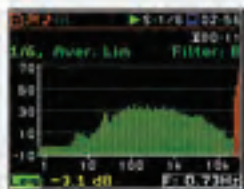
Software

SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to a spread sheet or text editor applications. New version of SvanPC++ software also supports analysis of wave files from Svantek's instruments (for example calculation of tonality).

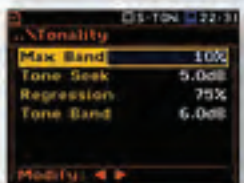


SvanMobile is an application for Android devices that uses the Bluetooth® connection to control the SVAN 979. It allows the user to trigger measurements, edit settings, rename files and view the results remotely. Anyone who makes measurements in the environment will appreciate the ability of SvanMobile to automatically add weather data and GPS position to the measurement report. SvanMobile also allows to link measurement files from the sound level meter to media files from the smartphone such as photos, video or audio recordings.

Optional functions



Thanks to its powerful computing processors, SVAN 979 can perform very sophisticated real-time frequency analysis in **1/6** or **1/12 OCTAVE BANDS**. It can be activated at any time by ordering the activation code.



TONALITY is a common sound quality analysis in relation to human hearing. Tonality determines annoying tones considered as a negative attribute of sound and calculates penalty value in dB which should be added to the noise level to indicate its annoyance.

In accordance with ISO 1996-2 tonal analysis is obligatory if noise characteristics includes audible tones. It can be activated at any time by ordering the activation code.



LOUDNESS is a measure of sound that corresponds to the subjective perception of humans, by taking into account the sensitivity of human hearing for different frequencies (Zwicker method according to ISO 532B standard). In many cases, loudness has been proven to be more reliable than A-weighted levels (and time history) in quantifying relatively low-level broadband sounds in agreement with subjective impression. It can be activated at any time by ordering the activation code.

Optional accessories to SVAN 979



SC 93
Extension Cable
for Preamplifier



SA 279
Microphone
Outdoor
Protection Kit



SM 279 PRO
Outdoor
Monitoring
Case



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB
at 1 kHz



SA 420B
Tripod Up To
4 m Height



SVAN 977A Sound & Vibration Level Meter Features

SVAN 977A Class 1 **SOUND & VIBRATION** Level Meter and analyser is designed to meet the needs of both environmental monitoring and occupational health and safety monitoring specialists.

SVAN 977W **TYPE APPROVED WELMEC** version is available.

If you disconnect the microphone preamplifier, you can use the instrument to take **VIBRATION** measurements - simply by connecting a cable and a vibration sensor.

The microphone preamplifier has been **REINFORCED** with a metal collar to protect it against mechanical damage.

The **TIME HISTORY LOGGING** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on a 8 GB **microSD** card (upgradeable to 128 GB).

Large **OLED DISPLAY** is a full color and **HIGH CONTRAST** so it can be used in a sunlight or night. The OLED technology doesn't use back-light giving SVAN 977A more battery operating time.

With a special microphone the meter provides measurement range of the **ULTRASOUNDS** up to 40 kHz.

The **Bluetooth®** interface connects the meter with the SvanMobile application that allows the user to trigger measurements, edit settings, rename files and view the results remotely.

Anyone who makes measurements in the environment will appreciate the ability of SvanMobile to automatically add weather data and **GPS** position to the measurement report.

SvanMobile also allows to link measurement files from the sound level meter to media files from the smartphone such as photos, videos or audio recordings.



About

The SVAN 977A is a Class 1 Sound and Vibration meter designed for occupational and environmental measurement applications. It provides broad-band results such as Leq, Max, Min and Peak with all standard weighting filters together with an incredible time-history logging feature with two adjustable logging steps.

One unique feature of the SVAN 977A is ultrasound measurement band up to 40 kHz. The ultrasound band is

normally considered as the frequency range above 20 kHz. Ultrasound is used in a number of industrial processes such as cleaning, drilling or welding as well as hospitals for medical procedures.

The built-in Bluetooth® interface together with smart-phone application, SvanMobile, extends measurement capabilities with all the features offered by smartphones including text/voice comments, photo, video, GPS position etc.



What's inside the SVAN 977A kit?

The kit consists of SVAN 977A Class 1 sound & vibration level meter with a detachable preamplifier SV 12L and high quality omni-directional SV 7052E microphone, compliant to IEC61094-4. The list of accessories includes: SA 143 carrying case, SA 22 windscreen, 8 GB microSD card, four AA batteries, USB cable, and CD with user manual. Each SVAN 977A has its factory calibration certificate and 36 months warranty card.

SVAN 977A Technical Specifications

Sound Level Meter & Analyser

| | |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013; Class 1: IEC 61260:1:2014 |
| Weighting Filters | A, B, C, Z |
| Time Constants | Slow, Fast, Impulse |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 12L detachable (TNC) |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Total Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Dynamic Range | >110 dB |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, L _{xy} (SPL), L _{xeq} (LEQ), L _{xpeak} (PEAK), L _{xymax} (MAX), L _{xymin} (MIN), LR (ROLLING LEQ), Ovl (OVERLOAD), L _x ye (SEL), LN (LEQ STATISTICS), L _{den} , L _{EPd} , L _{tm3} , L _{tm5} |
| Measurement Profiles | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Statistics | L _n (L ₁ -L ₉₉), complete histogram in meter mode and 1/1 or 1/3 octave analysis |
| Data Logger ¹ | Time-history logging of summary results, spectra with adjustable double logging steps down to 2 ms |
| Audio Recording ¹ (option) | Audio records to time-history data or WAV format with selectable band and recording period |

Vibration Level Meter & Analyser

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Standards | ISO 20816-1 |
| Meter Mode | RMS, Max, Peak, Peak-Peak |
| Filters | Simultaneous measurement in three profiles with independent filter sets and detectors |
| Accelerometer | HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, Wh |
| Analyser ¹ | SV 80 (100 mV/g) or any IEPE accelerometer (optional) |
| | 1/1 octave or optional 1/3 octave real-time analysis, up to 40.0 kHz band, meeting Class 1 requirements of IEC 61260 |
| | FFT analysis 1600 lines, up to 40.0 kHz band (optional) |
| | RPM rotation speed measurement parallel to the vibration measurement (optional) |
| Data Logger | Time-history logging of summary results, spectra with two adjustable logging steps |
| Time-domain Signal Recording ¹ | Continuous or triggered time-domain signal recording to WAV format (optional) |

General information

| | |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Input | IEPE with TNC connector |
| Memory | MicroSD card 8 GB (removable & upgradeable) |
| Display | Super contrast (10000:1) OLED 2.4" colour display (320 x 240 pixels) |
| Interfaces | USB 2.0 Client, Bluetooth, RS 232 (with optional SV 55) |
| Power Supply | External I/O - AC output (1 V Peak) or Digital Input/Output (Trigger – Pulse) |
| | Four AA batteries operation time > 12 h (6 V / 2 Ah) ² |
| | Four rechargeable AA batteries operation time > 16 h (4.8 V / 2.6 Ah) ² (not included) |
| | External power supply 6 V/500 mA DC ÷ 15 V/250 mA DC |
| | USB interface 500 mA HUB |
| Environmental Conditions | Temperature from -10 °C to 50 °C |
| | Humidity up to 90 % RH, non-condensed |
| Dimensions | 340 x 79 x 39 mm (with microphone and preamplifier) |
| Weight | Approx. 0.6 kg with batteries |

¹works together with the meter mode

²dependent on instrument operation mode

Software for SVAN 977A



SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to a spread sheet or text editor applications. New version of SvanPC++ software also supports analysis of wave files from Svantek's instruments (for example calculation of tonality).

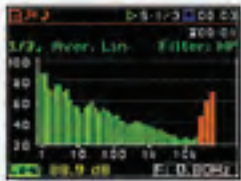
Supervisor is a dedicated software for determination of occupational noise & vibration exposure. It supports data download, instrument configuration and provides tools for reporting. The data files from the SVAN 977A can be used for calculation of all required measurement results and uncertainties in accordance to measurement strategies described in ISO 9612.

SvanMobile is an application for Android devices that uses the Bluetooth® connection to control the SVAN 977A. It allows the user to trigger measurements, edit settings, rename files and view the results remotely. Anyone who makes measurements in the environment will appreciate the ability of SvanMobile to automatically add weather data and GPS position to the measurement report. SvanMobile also allows to link measurement files from the sound level meter to media files from the smartphone such as photos, video or audio recordings.

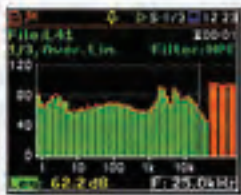
Optional functions



TIME SIGNAL RECORDING means recording the raw signal samples with defined frequency up to 48 kHz. Analysis of the raw signal is used whenever frequency analysis is not sufficient. Post-processing of high quality wave files (48 kHz, 24 bit) such as calculation of tonality is available in SvanPC++ program. Time signal is recorded in a wave format which means that it can be played back in the PC software and used for noise source recognition (audio recording).



FREQUENCY ANALYSIS of the signal in 1/1 or 1/3 octave bands allows to determine the influence of high or low frequencies on overall values. The 1/3 octave can be also used for the assessment of tonality in accordance to ISO 1996-2 (simplified method). It can be activated at any time by ordering the activation code.



With an optional microphone and 1/3 octave or FFT analysis SVAN 977A provides analysis of the **ULTRASOUNDS** up to 40 kHz. The ultrasound band is normally considered as the frequency range above 20 kHz. Limits of permissible ultrasound levels are usually expressed in terms of Leq and Max values specified in 1/3 octave bands for 20 kHz, 25 kHz, 31.5 kHz and 40 kHz.

Optional accessories to SVAN 977A



SC 26
Extension Cable
for Preamplifier



SA 277
Microphone
Outdoor
Protection Kit



SM 277 PRO
Outdoor
Monitoring
Case



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB
at 1 kHz



SV MK202
Ultrasound
Microphone up to
40 kHz band



SVAN 974 Vibration Level Meter

SVAN 974 is a **VIBRATION LEVEL METER** designed for machine vibration measurements in accordance to ISO 20816-1.

The input supports **ICP/IEPE** and **CHARGE** type accelerometers.

Three independent profiles offer parallel **ACCELERATION, VELOCITY AND DISPLACEMENT** measurements with advanced data logger including spectral analysis.

OLED 2.4" color display (320 x 240 pixels) provides a **SUPER CONTRAST** visibility even in sunny weather.

SVAN 974 is powered from 4xAA **BATTERIES** that can be easily replaced in the field.

Aluminum **ROBUST** housing gives the comfort of a secure grip to the user and protects the hardware against the electromagnetic interference.

The top cover has two inputs, one for the vibration accelerometer, second for a connection of the **TACHOMETER**.

Inbuilt **FFT** together with an optional **TIME DOMAIN SIGNAL** recording to WAV format option enable a detailed vibration frequency analysis.

The SV 80 vibration accelerometer enables vibration measurements from **0.5 Hz up to 14 kHz**.

The **TIME HISTORY LOGGING** of results such as RMS, Max, Peak and Peak-Peak with two simultaneous logging steps is saved on a 8 GB **microSD** card.



About

The SVAN 974 is a vibration level meter and analyser designed to measure vibrations from machinery. The instrument uses the SV80 accelerometer, which is an ideal choice for walk-around vibration measurements in challenging industrial environments with heavy machinery, such as pumps, motors or fans. The flexible accelerometer input also supports different types of vibration sensors including IEPE, charge and direct. The SVAN 974 can simultaneously present the parallel vibration acceleration, velocity and displacement results along with frequency analysis and wave recordings.

The FFT analysis allows selection of the frequency band providing accurate analysis of the vibration source of interest (e.g. 1600 lines in frequency band up to 1.25 kHz). With a dedicated tachometer the SVAN 974 can monitor RPM together with vibration assessment (simple order tracking).

The powerful digital signal processor allows for incredibly fast time history logging to a microSD card. The measurements data can be easily downloaded to a PC using the SvanPC++ software package over a USB connection.



SVAN 974 Technical Specifications

Vibration Level Meter

| | |
|-------------------|------------------------------------------------------------------------------------------------------------|
| Standards | ISO 20816-1 |
| Results | RMS, Peak, Peak-Peak, Max |
| | Simultaneous measurement in three profiles with independent set of filters and detectors |
| Weighting | Filters HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, HP, Wh |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Time Constants | from 100 ms to 10 s |
| Accelerometer | SV 80 IEPE type, sensitivity 100 mV/g |
| Measurement Range | 0.01 ms ⁻² RMS ÷ 500 ms ⁻² Peak (with SV 80 and HP1 filter, accelerometer dependent) |
| Frequency Range | 0.5 Hz ÷ 14 kHz (with SV 80 and HP1 filter, accelerometer dependent) |

Vibration Analyser¹

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Logger | Time-history logging including spectra |
| FFT | 400 or 800 or 1600 lines in selectable band from 78 Hz to 20 kHz with HP weighting filter, selectable averaging: linear or exponential, and selectable window |
| 1/1 Octave (optional) | Real-time analysis, 15 filters with centre frequencies from 1 Hz to 16 kHz meeting Class 1: IEC 61260 |
| 1/3 Octave (optional) | Real-time analysis, 45 filters with centre frequencies from 0.8 Hz to 20 kHz meeting Class 1: IEC 61260 |
| RPM Measurements (optional) | 1 ÷ 99999 rotation speed measurement parallel to the vibration measurement |
| Time-Domain Recording (optional) | Time-domain signal recording to WAV format |

General Information

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | IEPE, Charge amplifier or Direct with TNC connector |
| IEPE Current | Selectable: 1.5 mA, 3.0 mA, 4.5 mA |
| Dynamic Range | More than 100 dB in single range |
| Internal Noise Level | Less than 10 µV RMS (IEPE input & HP1 filter) |
| Frequency Range | 0.5 Hz ÷ 22.6 kHz, sampling rate 48 kHz |
| Display | Colour OLED 2.4", 320 x 240 pixels |
| Memory | MicroSD 8 GB included (slot supports 4 GB ÷ 16 GB cards) |
| Interfaces | USB 1.1, Extended I/O - AC output 1 V RMS Sine (1.41 V Peak) or Digital Input/Output (Trigger - Pulse) |
| Power Supply | Four AA batteries (alkaline) operation time > 12 h (6.0 V / 1.6 Ah) ² Four AA rechargeable batteries (not included) operation time > 16 h (4.8 V / 2.6 Ah) ² USB interface 500 mA HUB Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed |
| Environmental Conditions | |
| Dimensions | 140 x 83 x 33 mm (without accelerometer) |
| Weight | Approx. 390 grams including batteries (without accelerometer) |

¹vibration analyser works together with vibration level meter
²depending on operation mode



What's inside the SVAN 974 kit?

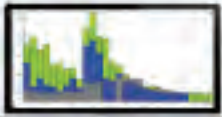
The kit consists of SVAN 974 together with SV80 accelerometer and SA 27 mounting magnet, SC27 coil cable all packed in SA 74 waterproof carrying case. The accessories list also contains 8 GB microSD card and CD with user manual. Each SVAN 974 has its factory calibration certificate and 36 months warranty card.



PC Software

SvanPC++ is an advanced PC software dedicated for data analysis from general noise and vibration measurements. It provides sophisticated functions such as Projects or Wave Analyser enabling various data comparisons.

Optional functions



FREQUENCY ANALYSIS of the signal in 1/1 or 1/3 octave bands is often used for a comparison of the machine vibration condition with the manufacturer's data. It can be activated at any time by ordering the activation code.



TIME SIGNAL RECORDING means recording the raw signal with a defined frequency sampling. Analysis of the raw signal is used whenever frequency analysis is not sufficient. Time signal is recorded in a wave format. The option can be activated at any time by ordering the activation code.



ROTATION MEASUREMENT OPTION is used whenever measuring vibration of machines with rotating elements. Information about revolutions per minute is calculated and added to data files basing on impulses generated by external tachometer. Function works simultaneously to other functions such as level meter or frequency analysis. The option can be activated at any time by ordering the activation code.

Optional accessories



SV RPM_PROB
Laser Tachometer



SV 81
Vibration
Accelerometer
500 mV/g



SA 47
Fabric Carrying Bag



SV 110
Hand-held
Vibration
Calibrator



SV 111
Hand-Arm and
Whole-Body Vibration
Calibrator



SVAN 971 Sound Level Meter

SVAN 971 Sound Level Meter is **CLASS 1** instrument in accordance to IEC 61672. SVAN 971 has been type approved in number of countries.

With optional accessories the meter is suitable for semi-permanent noise **MONITORING** applications.

It is the **SMALLEST** Class 1 instrument on the market. The size and weight are very convenient when making the hand-held measurements.

The **TIME HISTORY LOGGING** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on a 8 GB **microSD** card (upgradeable to 128 GB).

The **OLED DISPLAY** is a full color and **HIGH CONTRAST** so it can be used in a sunlight or even at night. The OLED technology does n't use back-light giving SVAN 971 more battery operating time. The size of display is a perfect compromise between power savings and visibility.

Once the calibration signal is detected, SVAN 971 starts the **AUTO-CALIBRATION**, saving the calibration data together with the measurement file, both before and after measurement.

The inbuilt **VIBRATION SENSOR** informs meter about vibrations that interfere with noise measurements. In addition, the sensor detects the horizontal position of meter so the meter knows when to rotate the display.

VOICE ANNOTATIONS (voice comments) before or after the measurements allow easy identification of data files.

SVAN 971 has **USB SOCKET** which can be used for communication with PC software as well as for powering the instrument from an external battery.

One of the biggest advantages of using SVAN 971 is its **POWER EFFICIENCY**. It can run up to 2-3 working days (16-24 hours) on one set of small AAA batteries.



About

The SVAN 971 is a Class 1 sound level meter in accordance to IEC 61672. The instrument is extremely small but offers unprecedented state of the art technology.

For those who do not need to alter the measurement settings, the SVAN 971 has an extremely simple operational mode with only Start/Stop controls. This means that the SVAN 971 is the ideal choice for many applications including industrial noise measurement for health and safety, short term environmental noise monitoring and general noise measurements for acoustic consultants or technical engineers.

The instrument is easily calibrated in the field using an acoustic calibrator as the calibration begins automatically when the microphone is inserted into the calibrator.

The instrument also includes a built-in vibration sensor that provides information about vibrations that could influence the measurements.

The SVAN 971 measures broad-band results with all the necessary weighting filters as well as 1/1 octave or 1/3 octave band filters. It also offers time-history logging providing broad-band results and spectra with adjustable logging steps. The audio events recording function works together with sound level meter mode.

The data are stored on a microSD card and can be easily downloaded to a PC using the Supervisor software.



SVAN 971 Technical Specifications

| | |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013, Type Approved; Class 1: IEC 61260:1:2014 |
| Weighting Filters | A, B, C, Z |
| Time Constants | Slow, Fast, Impulse |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 18 detachable (60 UNS thread) |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Dynamic Range | >110 dB |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), where x - weighting filter A/ B/ C/ Z; y - time constant Fast/ Slow/ Impulse LR (ROLLING LEQ OPTION), Ovl (OVERLOAD), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 |
| 1/1 Octave Analysis (optional) | Real-time analysis meeting Type 1 requirements of IEC 61260, center frequencies from 31.5 Hz to 16 kHz available simultaneously with three profiles for broadband measurements (SLM), time-history logging and audio recording |
| 1/3 Octave Analysis (optional) | Real-time analysis meeting Type 1 requirements of IEC 61260, center frequencies from 20 Hz to 20 kHz available simultaneously with three profiles for broadband measurements (SLM), time-history logging and audio recording |
| Dosimeter Mode Results ¹ (optional) | Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), DOSE, DOSE_8h, PrDOSE, LAV, Lxye (SEL), Lxye8 (SEL8), PLxye, (PSEL), E, E_8h, LEPd, PTC (PEAK COUNTER), PTP (PEAK THRESHOLD %), ULT (UPPER LIMIT TIME), TWA, PrTWA, Lc-a Exchange Rate 2, 3, 4, 5, 6 |
| Measurement Profiles | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Statistics ¹ | L _n (L ₁ -L ₉₉), complete histogram in meter mode |
| Data Logger ¹ | Time-history logging of summary results, spectra with two adjustable logging steps down to 100 ms |
| Audio Recording ¹ (optional) | Audio events recording, trigger and continuous mode, 12 kHz sampling rate, wav format |
| Voice Comments | Audio records on demand, created before or after measurement, added to measurement file |
| Ingress Protection Rating | IP 65 (excluding microphone) |
| Memory | MicroSD card 8 GB (removable & upgradeable) |
| Display | Colour 96 x 96 pixels OLED type |
| Keyboard | 8 push buttons |
| Communication Interfaces | USB 2.0 client SV 75 RS 232 cable (option) or SV 76 RS 232 cable with external power supply connector (option) |
| Power Supply | Four AAA alkaline or rechargeable NiMH batteries (not included) operation time 16 h ÷ 24 h (depending on usage) |
| Environmental Conditions | USB interface Temperature from -10 °C to 50 °C Humidity up to 95 % RH, non-condensed |
| Physical Characteristics | Dimensions 232.5 mm x 56 x 20 mm (including microphone and preamplifier) Weight Approx. 225 grams with batteries |

¹function operates together with sound level meter mode



What's inside the SVAN 971 kit?

The kit consists of SVAN 971 Class 1 sound level meter with detachable preamplifier SV18 and high quality omni-directional SV 7052E microphone, compliant to IEC61094-4. The list of accessories includes: SA22 windscreen, 8 GB microSD card, four AAA batteries, USB cable, and CD with user manual. Each SVAN 971 has its factory calibration certificate and 36 months warranty card.



PC Software

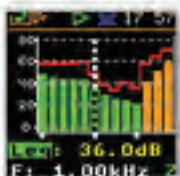
SvanPC++ is an advanced PC software dedicated for data analysis from general noise and vibration measurements. It provides sophisticated functions such as Projects or Wave Analyser.

Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational noise exposure from noise level measurements.

Optional functions



AUDIO RECORDING is synchronized with a noise time-history and it can be opened and played back in SvanPC++ or Supervisor software enabling noise source recognition. The recording is programmable, it can be triggered on threshold or time and the length of recording can be set as well. It can be activated at any time by entering the ordering code.



FREQUENCY ANALYSIS of the signal in 1/1 or 1/3 octave bands is often used for selection of hearing protectors, diagnostics of faulty equipment or measuring room criteria such as Noise Criterion or Noise Rating. The 1/3 octave function allows to determine the influence of high or low frequencies on overall values. It can be activated at any time by ordering the activation code.



DOSIMETER option provides results such as: 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, Lc-a and the selection of exchange rate between 2, 3, 4, 5, 6. It can be activated at any time by ordering the activation code.

Optional accessories



SC 91
Microphone
Extension Cable



SA 271
Microphone
Outdoor
Protection Kit



SM 271 LITE
Outdoor
Monitoring
Case



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB
at 1 kHz



SA 420B
Tripod Up To
4 m Height



SVAN 958A Four-Channel Sound & Vibration Analyser

Four-channel **SOUND & VIBRATION** analyser dedicated for engineering applications.

Depending on an application, each channel can be **INDEPENDENTLY** configured e.g. one tri-axial and one mono-axial vibration sensor or four microphones etc.

The Class 1 Sound Level Meter enables the simultaneous real-time frequency analysis in **1/1 or 1/3 OCTAVE BANDS**.

The meter can be used for **BUILDING ACOUSTIC** measurements e.g. simultaneous 4-channel RT 60 measurements.

The **RS232** interface enables integration with the production line.

The optional **FFT ANALYSER** offers the detailed frequency analysis in a selectable frequency band.

The **BUILDING VIBRATION** mode offers simultaneous **VELOCITY** and **ACCELERATION** measurements with the automatic indication of a **DOMINANT FREQUENCY**.

OLED 2.4" color display (320 x 240 pixels) provides a **SUPER CONTRAST VISIBILITY** even in sunny weather.

Aluminum **ROBUST** housing gives the comfort of a secure grip to the user and protects the hardware against the electromagnetic interference.



About

SVAN 958A is an unique four-channel instrument offering 20kHz-band sound & vibration analysis. It is a perfect choice for all applications that require simultaneous Class 1 noise measurements & tri-axial vibration assessment. Each of four input channels can be independently configured for sound or vibration detection with different filters and RMS detector time constants giving users an enormous measurement flexibility. The real advantage of SVAN 958A is the capability to perform advanced analysis simultaneously to the level meter mode. In practise this allows to obtain broad-band results such as Leq, RMS, LMax, LMin, LPeak together with four-channel analysis like FFT or octave band analysis.

List of available analyser functions includes FFT, 1/1 or 1/3

octave, cross spectra, sound intensity, RT 60 and more. All measurement results are stored in the non-volatile 32 MB internal memory and can be easily downloaded to a PC with SvanPC++ software. SVAN 958A with RS 232 interface (SV 55) can be offered with GPRS modem or LAN & WLAN connection module. Together with SvanPC++_RC remote communication software, these interfaces provide easy remote access to instrument settings & data over Internet and local area network. Instrument is powered from four AA standard or rechargeable batteries as well as from the external DC power source or USB interface. Robust case and light weight design accomplish the exceptional features of this new generation instrument.



SVAN 958A Technical Specifications

Vibration Level Meter & Analyser

| | |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | ISO 8041:2005, ISO 20816-1, DIN 4150-3, BS 7285-1 |
| Meter Mode | RMS, VDV, MTVV or Max, Peak, Peak-Peak |
| Analyser (optional) | 1/1 or 1/3 octave ¹ real-time analysis FFT ¹ 1600 lines with Hanning, Kaiser-Bessel or Flat Top window FFT cross spectra measurements RPM rotation speed measurements parallel to the vibration measurement (1 ÷ 99999) |
| Filters | Wd, Wk, Wc, Wj, Wm, Wb, Wg (ISO 2631), Wh (ISO 5349), HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, KB (DIN 4150) |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB Time constants: from 100 ms to 10 s |
| Accelerometer (optional) | SV 84 triaxial high sensitivity accelerometer for ground or building vibration measurements (1 V/g) SV 38 triaxial accelerometers for whole-body measurements (1 V/g MEMS type) |
| Measurement Range | Accelerometer dependent (with SV 84: 0.0005 m/s ² RMS ÷ 50 m/s ² PEAK) |
| Frequency Range | 0.5 Hz ÷ 20 kHz; accelerometer dependent |

Sound Level Meter & Analyser

| | |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013 |
| Meter Mode | SPL, Leq, SEL, Lden, LEPd, Overload time, Ltm3, Ltm5, LMax, LMin, LPeak, Simultaneous measurement in three profiles with independent filters and detectors |
| Analyser | 1/1 or 1/3 octave ¹ real-time analysis FFT ¹ 1600 lines with Hanning, Kaiser-Bessel or Flat Top window FFT cross spectra measurements Sound Intensity measurements |
| Weighting Filters | A, C, Z and G |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB Time constants: Slow, Fast, Impulse |
| Microphone (optional) | MK 255, Class 1, 50 mV/Pa, prepolarised 1/2" condenser microphone with SV 12L preamplifier SV 25, Class 2, dose meter, ceramic 1/2" microphone with integrated preamplifier |
| Measurement Range | Total Dynamic Range: 16 dBA RMS ÷ 140 dBA Peak Linearity Range (IEC 61672): 26 dBA RMS ÷ 140 dBA Peak |
| Frequency Range | 0.5 Hz ÷ 20 kHz (microphone dependent, with MK 255 microphone: 3.5 Hz ÷ 20 kHz) |

General Information

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input | IEPE type (channels 1, 2, 3 - LEMO4-pin & channel 4 - TNC connector) |
| Dynamic Range | 100 dB, 4 x 20 bits A/D converters |
| Frequency Range | 0.5 Hz ÷ 22.4 kHz, sampling rate 48 kHz |
| Data Logger | Time-history logging to internal memory |
| Display | Super contrast (10000:1) OLED 2.4" colour display (320 x 240 pixels) |
| Memory | 32 MB non-volatile flash type |
| Interfaces | USB 1.1 Client, RS232 (option: SV55 required) Extended I/O - AC output (1VPeak) or Digital Input/Output (Trigger / Pulse) |
| Power Supply | Four AA batteries (alkaline) operation time > 10 h (6.0 V / 1.6 Ah) ² Four AA rechargeable batteries (not included) operation time > 14 h (4.8 V / 2.6 Ah) ² SA 17A external battery pack (option) operation time > 24 h External power supply 6 V DC ÷ 24 V DC (1.5 W) USB interface 500 mA HUB |
| Environmental Conditions | Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed |
| Dimensions | 140 x 82 x 42 mm |
| Weight | 510 grams with batteries |

¹function works together with meter mode

²dependent on instrument operation mode

What's inside the SVAN 958A kit?



The standard kit includes SVAN 958A 4-channel sound & vibration level meter with an USB cable, set of 4x AA batteries, SC 61 TNC/BNC adapter and the user manual on a CD disk. Each SVAN 958A has its factory calibration certificate and a **36-MONTH WARRANTY CARD**. The standard kit also includes license for PC software.

The Analyser package

The SVAN 958A is also offered together with a price attractive analyser package that includes 1/1 & 1/3 octave analysis, FFT and Time Domain Signal Recording.

PC Software

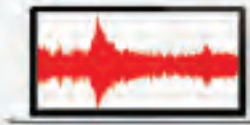


SvanPC++ is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creating, basic Leq/RMS recalculation, measurement results in text, table and graphical form of presentation, export data to a spread sheet or text editor applications. New version of SvanPC++ software also supports analysis of wave files from Svantek's instruments (for example calculation of tonality).

Optional functions



FREQUENCY ANALYSIS is an irreplaceable tool for sound & vibration engineers. Depending on an application frequency analysis can be more or less detailed. Thanks to its powerful computing processor, SVAN 958A can perform very sophisticated 4-channel frequency analysis such as 1/1 or 1/3 octave, FFT or FFT cross spectrum. Each option can be activated separately at any time by ordering the activation code.



TIME DOMAIN SIGNAL RECORDING means recording the raw signal samples with defined frequency up to 48 kHz. Analysis of the raw signal is used whenever frequency analysis is not sufficient. Post-processing of wave files such as calculation of tonality is available in SvanPC++ program. Time signal is recorded in a wave format which means that it can be played back in the PC software and used for noise source recognition (audio recording). It can be activated at any time by ordering the activation code.

Optional accessories to SVAN 958A



SV 60
Sound
Measurement Kit



SV 80 / 81
Mono-axial
Accelerometers



SV 84 / 85
Tri-axial
Accelerometers



SV 207B
Building Vibration
Kit



SM 258 PRO
Monitoring
Case



SV 55
Cable for RS 232
devices



SV 111
Vibration
Calibrator



SA 154
Calibration
Adapter to SV 84



SV 208
Sound
Measurement Kit



SA 48
Waterproof
Carrying Case



SV 35A
Acoustic
Calibrator



SA 420B
Tripod Up to
4 m Height

SV 84 Building Vibration Accelerometer

SV 84 is a **LOW-NOISE**, hermetically sealed **TRI-AXIAL** piezoelectric accelerometer designed to monitor building and ground vibrations with SVAN 958A analyser.

A hermetically sealed glass connector protects the SV84 from harmful dust and moisture enabling the **OUTDOOR** use without additional enclosures.

Signal ground is **ISOLATED** from the mounting surface and outer case to prevent ground loops.



Optional accessories



SV 111
Vibration Field
Calibrator



SV 207B
Building Vibration
Kit



SA 154
Calibration
Adapter to SV 84



SC 282
Cable to SV 84
and SVAN 958A

Technical Specifications

Performance

| | |
|----------------------------------|--------------------------------------------------------|
| Number of Axes | 3 |
| Sensitivity ($\pm 5\%$) | 100 mV/(ms ⁻²) ~ 1000 mV/g |
| Measurement Range | 0.0005 ms ⁻² RMS ÷ 50 ms ⁻² Peak |
| Frequency Response (± 3 dB) | 0.2 Hz ÷ 3 700 Hz |
| Resonant Frequency | 16 kHz |
| Residual Noise (1 Hz, 24°C) | 2.0 µg RMS |
| Residual Noise (1 kHz, 24°C) | 6.3 µg RMS |

Electrical

| | |
|--------------------------------------------------|----------------|
| Supply Current (IEPE) | 2 mA ÷ 10 mA |
| Supply Voltage (IEPE) | 22 V ÷ 28 V |
| Bias Voltage (IEPE) | +10 VDC |
| Output Impedance (Nominal) | 50 Ω |
| Charge / Discharge Time Constant (start-up time) | < 10 sec. typ. |

Environmental Conditions

| | |
|-------------------------------------------|-----------------------------------|
| Maximum Vibration (shock survival) | 50 000 ms ⁻² Peak |
| Thermal Sensitivity Coefficient | 0.1 %/°C F.S. |
| Operating Temperature Range (recommended) | from -10 °C to +50 °C |
| Humidity / Enclosure | Not affected, hermetically sealed |

Physical

| | |
|------------------------------|------------------------------|
| Connector | M12 glass seal |
| Dimensions | 41x42x23 mm (with connector) |
| Weight | 275 grams |
| Mounting Thread | M6 |
| Material Housing & Connector | Stainless steel |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

SV 85 General Purpose Vibration Accelerometer

The SV 85 is a ICP® based **TRI-AXIAL ACCELEROMETER** designed for general purpose vibration measurements with the SVAN958A four-channel analyser.

The **HERMETIC SEALED** tri-axial industrial piezoelectric accelerometer is suitable to monitor the vibration in harsh industrial environment.

Signal ground is **ISOLATED** from the mounting surface and outer case to prevent ground loops.



Optional accessories



SV 111
Vibration Field
Calibrator



SV 110
Hand-held
Vibration
Calibrator



SA 154
Calibration
Adapter to SV 85



SC 282
Cable to SV 85
and SVAN 958A

Technical Specifications

Performance

| | |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Number of Axes | 3 |
| Sensitivity ($\pm 5\%$) | $10 \text{ mV}/(\text{m/s}^2) \sim 100 \text{ mV/g}$ |
| Measurement Range | $0.005 \text{ m/s}^2 \text{ RMS} \div 500 \text{ m/s}^2 \text{ Peak}$ |
| Frequency Response ($\pm 3 \text{ dB}$) | $0.5 \text{ Hz} \div 13\,000 \text{ Hz}$ (Z axis); $0.5 \text{ Hz} \div 10\,000 \text{ Hz}$ (X, Y axis) |
| Resonant Frequency | 40 kHz |
| Residual Noise (1 Hz, 24°C) | 300 μg RMS |
| Residual Noise (1 kHz, 24°C) | 3000 μg RMS |

Electrical

| | |
|--------------------------------------------------|-----------------------------------|
| Supply Current (IEPE) | $2 \text{ mA} \div 10 \text{ mA}$ |
| Supply Voltage (IEPE) | $22 \text{ V} \div 28 \text{ V}$ |
| Bias Voltage (IEPE) | $+12 \pm 2 \text{ VDC}$ |
| Output Impedance (Nominal) | 50 Ω |
| Charge / Discharge Time Constant (start-up time) | < 1 sec. typ. |

Environmental Conditions

| | |
|-------------------------------------------|-----------------------------------|
| Maximum Vibration (shock survival) | 50 000 ms^{-2} Peak |
| Thermal Sensitivity Coefficient | 0.1 %/°C F.S. |
| Operating Temperature Range (recommended) | from -10 °C to +50 °C |
| Humidity / Enclosure | Not affected, hermetically sealed |

Physical

| | |
|------------------------------|----------------------------------|
| Connector | M12 glass seal |
| Dimensions | 28.5x27x16.5 mm (with connector) |
| Weight | 84 grams |
| Mounting Thread | M6 |
| Material Housing & Connector | Stainless steel |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

SV 80 General Purpose Vibration Accelerometer

The SV 80 is an industry standard IEPE piezoelectric accelerometer offered to Svantek's Vibration Level Meters (974, 977, 979, 958A).

It is an ideal choice for walk-around vibrations measurement in the rugged environments of **INDUSTRIAL** machinery monitoring, such as pumps, motors etc.

The accelerometer is mounted on a vibrating surfaces with the mounting magnet.



Optional accessories



SV 110
Hand-held
Vibration
Calibrator



SA 27
Mounting
Magnet



SC 27
TNC/TNC coil
cable

Technical Specifications

Performance

| | |
|---------------------------------------------------------------|----------------------------------------------------------------------|
| Number of Axes | 1 |
| Sensitivity ($\pm 5\%$) | $10 \text{ mV}/(\text{m/s}^2) \sim 100 \text{ mV/g}$ |
| Measurement Range | $0.01 \text{ m/s}^2 \text{ RMS} \div 500 \text{ m/s}^2 \text{ Peak}$ |
| Frequency Response (by design guideline, $\pm 3 \text{ dB}$) | $0.5 \text{ Hz} \div 14\,000 \text{ Hz}$ |
| Resonant Frequency | 25 kHz |
| Residual Noise (1 Hz, 24°C) | 30 μg RMS |
| Residual Noise (1 Hz to 25 kHz, 24°C) | 300 μg RMS |

Electrical

| | |
|--------------------------------------------------|-------------------|
| Supply Current (IEPE) | 2 mA \div 10 mA |
| Supply Voltage (IEPE) | 22 V \div 28 V |
| Bias Voltage (IEPE) | +12 VDC |
| Output Impedance (Nominal) | 50 Ω |
| Charge / Discharge Time Constant (start-up time) | < 1 sec. typ. |

Environmental Conditions

| | |
|-------------------------------------------|----------------------------|
| Maximum Vibration (shock survival) | 50 000 m/s^2 Peak |
| Thermal Sensitivity Coefficient | 0.07 %/°C F.S. |
| Operating Temperature Range (recommended) | from -10 °C to +50 °C |
| Humidity / Enclosure | IP67, epoxy sealed |

Physical

| | |
|-----------------|----------------------------------|
| Connector | TNC socket, top radially mounted |
| Weight | 40 grams |
| Mounting Thread | 10-32 UNF 2B |

SV 81 General Purpose Vibration Accelerometer

The SV 81 is an industry standard IEPE accelerometer offered to SvanTek's Vibration Level Meters (974, 977, 979, 958A).

The accelerometer's **HIGH SENSITIVITY** and **LOW ELECTRONIC NOISE** enable measurements of very low vibration amplitudes over the typical machines' frequency operating ranges.

The accelerometer is mounted on a vibrating surfaces with the mounting magnet.



Optional accessories



SV 110
Hand-held
Vibration
Calibrator



SA 27
Mounting
Magnet



SC 27
TNC/TNC coil
cable

Technical Specifications

Performance

| | |
|------------------------------------------------------|-------------------------------------------------------------|
| Number of Axes | 1 |
| Sensitivity ($\pm 5\%$) | 50 mV/(m/s ²) ~ 500 mV/g |
| Measurement Range | 0.002 m/s ² RMS \div 100 m/s ² Peak |
| Frequency Response (by design guideline, ± 3 dB) | 0.2 Hz \div 3700 Hz |
| Resonant Frequency | 16 kHz |
| Residual Noise (1 Hz, 24°C) | 2.4 μ g RMS |
| Residual Noise (1 Hz to 25 kHz, 24°C) | 25 μ g RMS |

Electrical

| | |
|--------------------------------------------------|-------------------|
| Supply Current (IEPE) | 2 mA \div 10 mA |
| Supply Voltage (IEPE) | 22 V \div 28 V |
| Bias Voltage (IEPE) | +12 VDC |
| Output Impedance (Nominal) | 50 Ω |
| Charge / Discharge Time Constant (start-up time) | < 10 sec. typ. |

Environmental Conditions

| | |
|-------------------------------------------|------------------------------|
| Maximum Vibration (shock survival) | 50 000 ms ⁻² Peak |
| Thermal Sensitivity Coefficient | 0.07 %/° C F.S. |
| Operating Temperature Range (recommended) | from -10 °C to +50 °C |
| Humidity / Enclosure | IP67, epoxy sealed |

Physical

| | |
|-----------------|----------------------------------|
| Connector | TNC socket, top radially mounted |
| Weight | 40 grams |
| Mounting Thread | 10-32 UNF 2B |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.



Acoustic Calibrators Technical Specifications

| | SV 35A | SV 33A | SV 34A |
|---------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| Calibration Signal Parameters: | | | |
| Sound Pressure Level (SPL) | 114 dB or 94 dB | 114 dB | 114 dB |
| IEC 60942:2003 Accuracy | Class 1 | Class 1 | Class 2 |
| SPL Accuracy | ± 0.3 dB | ± 0.3 dB | ± 0.5 dB |
| Frequency Accuracy | ± 0.2 % | ± 0.2 % | ± 0.2 % |
| Total Harmonic Distortion (THD) | < 0.50 % for 94 dB < 0.75 % for 114 dB level | < 0.75 % | < 0.75 % |
| General Information: | | | |
| Effective Load Volume Sensitivity | 0.00027 dB / mm ³ | 0.00027 dB / mm ³ | 0.00027 dB / mm ³ |
| Level Stabilisation Time | typically 15 s, max 30 s | typically 15 s, max 30 s | typically 15 s, max 30 s |
| Calibrated Microphones | 1/2" and 1/4" with SA 30 adapter | 1/2" and 1/4" with SA 30 adapter | 1/2" |
| Storage Temperature Range | -25 °C ÷ +70 °C | -25 °C ÷ +70 °C | -25 °C ÷ +70 °C |
| CE Classification | EN 61010-1: 2010 EN 61326-1:2006 EN 61326-1:2006 EN 60942:2003 | EN 61010-1: 2010 EN 61326-1:2006 EN 55022:2010 EN 60942:2003 | EN 61010-1: 2010 EN 61326-1:2006 EN 55022:2010 EN 60942:2003 |
| Working Conditions: | | | |
| Temperature Range | from -10 °C to +50 °C (related SPL error ≤ ±0.15 dB) | from -10 °C to +50 °C (related SPL error ≤ ±0.15 dB) | from 0 °C to +40 °C (related SPL error ≤ ±0.2 dB) |
| Atmospheric Pressure Range | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) |
| Humidity Range | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) |
| Reference conditions: | | | |
| Ambient Temperature | 23 °C | | |
| Atmospheric Pressure | 101.3 kPa | | |
| Humidity | 30 % ÷ 80 % RH | | |
| Effective Microphone Load Volume | 250 mm ³ for microphone type B&K 4134 | | |
| Power supply: | | | |
| Battery Type | 2 x LR03 (IEC) / AAA (ANSI) alkaline batteries | | |
| Continuous Operating Time | 40 hours for 94 dB level, 30 hours for 114 dB level | | |
| Stand-by Period | around two years | | |
| Minimal Voltage Requirements | 2.1 V | | |
| Overall weight and dimensions | | | |
| Weight | 310 grams including batteries | | |
| Dimensions | 65 x 65 x 70 millimetres | | |

SV 35A, SV33A, SV34A Acoustic Calibrators

The SV 35A Class 1 acoustic calibrator features an **OPTIC SENSOR** that detects microphone presence and turns on the calibrator automatically.

Calibrators from SVANTEK are based on the reference microphone and microprocessor controlled signal source including digital static **PRESSURE** and **TEMPERATURE** compensation. Due to the feedback regulation control loop our calibrators do not require any adjustments of the level and operate over a wide range of ambient temperature and humidity levels.

Unlike many others, the Svantek's calibrators feature a **ROBUST HOUSING** that gives the comfort of a secure grip to the user.

The accuracy of acoustic calibrator should match the class of the sound level meter. A **CLASS 1** (SV 33A or SV 35A) or **CLASS 2** (SV 34A) calibrator should be used, depending on the class of instrument.

SV 34A and SV 33A provide 114 dB calibration level whereas the SV 35A offers two levels: **94 dB or 114 dB**.

The user interface of the calibrator is equipped with a **PUSH BUTTON** and a **LED** diodes signaling calibration and battery faults.



Is my result correct?

The only way to be sure that you can answer 'yes' to this question is to perform an acoustic calibration using a calibrator that fully conforms to current standards. The norms and standards impose the requirement to calibrate the measurement channel before each measurement or measurement session and after the measurement as well for result verification purposes. If you don't perform these basics checks then what do your results actually mean?

An acoustic calibrator is a device which produces an acoustic pressure of defined level and frequency. In other words, an acoustic calibrator is a template of acoustic pressure. With the help of such a reference template we can check the accuracy of the measurements performed with the sound level meter and adjust it if a drift error in sensitivity is indicated.

The accuracy of acoustic calibrators used for the calibration of the measurement path should match the class of sound level meter. Depending on the instrument's performance Class 1 or

Class 2 calibrators are used. A sound level meter is calibrated correctly only if the measurement error is within the allowed range of tolerance defined by the standards for the meter of a given class (defined by IEC 61672: 2013).

Unlike many others, the Svantek calibrators feature a robust housing that gives the comfort of a secure grip to the user. The interior design of our acoustic calibrators is based on the reference microphone and microprocessor controlled signal source including digital static pressure and temperature compensation. Due to the feedback regulation control loop our calibrators do not require any adjustments by the user and operate over a wide range of ambient temperature and humidity assuring excellent stability of the calibration levels and their frequency.

Each acoustic calibrator is provided with a statement of the calibration which allows the user to be certain that their instruments will measure correctly.



SV 111 Technical Specifications

CALIBRATION SIGNAL PARAMETERS

| | | |
|----------------------------------------------------|--------------------------------------|----------------------------------------------------|
| Calibration frequencies (Hz) | 15.92; 79.58; 159.2; 636.6 | |
| Vibration Accelerations (RMS in m/s ²) | 1 (at 15.92 Hz) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 79.58 Hz) |
| | 1 (at 636.6 Hz) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Velocities (RMS in mm/s) | 10 (at 15.92 Hz) | 2, 4, 6, 8 10, 12, 14, 16, 18, 20 (at 79.58 Hz) |
| | 0.25 (at 636.6 Hz) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Displacement (RMS in µm) | 100 (at 15.92 Hz) | 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 (at 79.58 Hz) |
| | 0.0625 (at 636.6 Hz) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Amplitude Error | Less than ± 3 % | |
| Frequency Error | Less than ± 0.05 % | |
| Transverse Vibration | Less than 10 % of the main direction | |
| Harmonic Distortion | < 5 % (at 15.92 Hz) | < 3 % (at 79.58 Hz) |
| | < 3 % (at 636.6 Hz) | < 3 % (at 159.2 Hz) |

GENERAL INFORMATION

| | | |
|-------------------------------------|--------------------------|-------------------------|
| Maximum Weight of Calibrated Object | 1000 grams (at 15.92 Hz) | 300 grams (at 79.58 Hz) |
| | 200 grams (at 159.2 Hz) | 200 grams (at 636.6 Hz) |
| Sensor Mounting | Thread M5 x 12 mm | |

WORKING CONDITIONS

| | |
|-------------------|----------------|
| Temperature Range | -10 °C ÷ 50 °C |
| Humidity Range | 25 % ÷ 85 % |

POWER SUPPLY

| | |
|---------------------------|-------------------------------------|
| Battery Type | Rechargeable 6 V / 12 Ah |
| Continuous Operating Time | Up to 20 hours (depending on usage) |
| Automatic Switch Off | From 5 to 60 minutes adjustable |
| Charging Time | Less than 10 hours |
| Power Supply for Charger | 15 W; 8÷24 V |

OVERALL WEIGHT AND DIMENSIONS

| | |
|------------|------------------------|
| Weight | 8.2 kg (incl. battery) |
| Dimensions | 305 x 270 x 194 mm |

SV 111 Vibration Calibrator

SV111 is a vibration field calibrator designed in accordance to **ISO 8041** for in-situ checks of **WHOLE-BODY** and **HAND-ARM VIBRATION** meters.

Calibrator is suitable for all types of vibration transducers for **ACCELERATION, VELOCITY AND DISPLACEMENT** at 15.92 Hz; 79.6 Hz; 159.2 Hz and 636.6 Hz

The shaker can be loaded with maximum payload of **1 kg at 15.92 Hz** enabling calibration of a complete seat-pad or building vibration sensors.

The inbuilt **RECHARGEABLE** battery provides up to 20 hours of continuous operation.

The **OLED** colour graphical screen displays information on selected frequency and vibration level.

The **INBUILT REFERENCE TRANSDUCER** detects errors during calibration process and ensures calibration stability.

The calibrator is simple in use. It has three **PUSH-BUTTONS** for selection of frequency and amplitude and start/stop control.



*Sensors shown on photos are not included in the kit.

About

The SV 111 vibration calibrator is designed for in-situ checks in accordance with the ISO 8041 standard. The device is intended for operation in the field to check that a vibration level meter is working correctly. The calibrator is based on a built-in tri-axial reference accelerometer and digitally controlled shaker. In accordance with ISO 8041 requirements the reference accelerometer will measure cross-axes / transverse vibrations to detect any interference to the calibration signal. Three LEDs will light up on the calibrator panel whenever a fault caused by transverse vibrations is detected. This unique feature ensures the stability of the calibration level & frequency at each test measurement.

The SV 111 is designed to calibrate a variety of vibration meters at different frequencies from 16 Hz up to 640 Hz. Depending on the frequency selected, the user may choose the level of calibration from 1 m/s² to 10 m/s².

The shaker can be loaded with up to 1 kilogram mass. Any improper object fixing is automatically detected and indicated by LEDs on the control panel giving information about the axis that needs correcting.

A set of adapters is available for calibration checks on tri-axial sensors including a special adapter for Svantek's whole-body sensors (seat-pads), which can be directly mounted onto the shaker. Other types of vibration transducers can be easily attached using a mounting stud, a mounting disc or adapter.

Optional accessories



SA 105A Calibration Adapter to SV105A, SV 105AF and SV 107



SA 155 Calibration Adapter to SV 150 and SV 151



SA 40 Calibration Adapter to SV 3233A



SA 44 Calibration Adapter to SV 50



SA 154 Calibration Adapter to SV 84



SV110 Technical Specifications

CALIBRATION SIGNAL PARAMETERS

| | |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Calibration frequencies (Hz) | 79.58; 159.2 |
| Vibration Accelerations (RMS in m/s ²) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Velocities (RMS in mm/s) | 2, 4, 6, 8 10, 12, 14, 16, 18, 20 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Displacement (RMS in µm) | 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Amplitude Error | Less than ± 3 % |
| Frequency Error | Less than ± 0.05% |
| Transverse Vibration | Less than 10 % of the main direction |
| Harmonic Distortion | < 3 % (at 79.58 Hz) < 3 % (at 159.2 Hz) |

GENERAL INFORMATION

| | |
|-------------------------------------|----------------------------------------------------|
| Maximum Weight of Calibrated Object | 300 grams (at 79.58 Hz) 200 grams (at 159.2 Hz) |
| Sensor Mounting | Thread M5 x 6 mm |

WORKING CONDITIONS

| | |
|-------------------|----------------|
| Temperature Range | -10 °C ÷ 50 °C |
| Humidity Range | 25 % ÷ 85 % |

POWER SUPPLY

| | |
|---------------------------|---------------------------------------------|
| Battery Type | Rechargeable 7.2 V / 2 Ah |
| Continuous Operating Time | Up to 12 hours (depending on usage) |
| Automatic Switch Off | From 5 to 60 minutes adjustable |
| Charging Time | 5 hours (with SA 54) or 10 hours (with USB) |
| Power Supply | Dedicated 5 V / 2 A |

OVERALL WEIGHT AND DIMENSIONS

| | |
|------------|------------------------|
| Weight | 1200 g (incl. battery) |
| Dimensions | 170 x 65 x 65 mm |

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SV 110 Vibration Calibrator

SV 110 is hand-held vibration field calibrator designed in accordance to **ISO 8041** for in-situ checks of hand-arm vibration meters.

The calibrator operates on two frequencies **80 Hz and 160 Hz** enabling in-situ checks of hand-arm vibration meters as well as machine vibration meters.

Titanium shaking table and **POWERFUL SHAKER** enable calibration of sensors with mass up to 300 g at 80 Hz.

The inbuilt **RECHARGEABLE** battery typically provides enough power for 12 hours of continuous operation.

*Sensors shown on photos are not included in the kit.



Two conveniently located **LED** diodes show the current **STATUS DURING** the **CALIBRATION PROCESS**.

The calibrator aluminum housing is **ROBUST** and additionally protected with rubber covers on both ends.

The **LEATHER COVER** gives comfort of a secure grip to the user.

The calibrator is simple in use. It has three **PUSH-BUTTONS** for selection of frequency & amplitude level and start/stop control.

The **OLED** graphical screen displays information on selected frequency and vibration level.

About

The SV 110 is a hand-held vibration calibrator designed for on-site checks of hand-arm vibration meters in accordance to ISO 8041 both at 80 Hz and 160 Hz. The menu is simply operated by three push-buttons and a small OLED display. Depending on a chosen frequency, a user may select a calibration level from 1 m/s² to 10 m/s².

The SV 110 is a perfect solution for calibration checks of hand-arm vibration meters including Svantek's SV 103 and SV 106. Following the requirements of ISO 8041, the calibrator's built-in tri-axial reference accelerometer measures the cross-axis (transverse) vibrations to detect any interference to the calibration signal. Faults caused by

transverse vibrations are indicated by LED on the calibrator's housing. This unique solution ensures stability of both calibration level & frequency. A small size of the SV 110 makes it very useful for calibration checks of various types of machine vibration accelerometers.

The calibrator menu provides selection between both metric systems 'g' and 'm/s²' as well as choice of frequency unit between Hertz (Hz) and Cycle Per Minute (CPM).

Accelerometers are conveniently attached using a mounting stud, magnet or a dedicated adapter.

The calibrator has a built-in rechargeable batteries that typically power it for 12 hours of continuous operation.

Optional accessories



SA105A Calibration Adapter to SV105A, SV 105AF and SV107 Accelerometers



SA155 Calibration Adapter to SV 150 and SV 151 Accelerometers

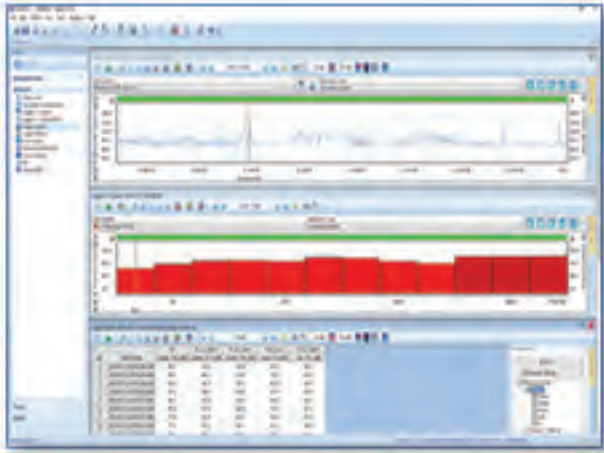


SA 40 Calibration Adapter to SV 3233A Accelerometer



SA 44 Calibration Adapter to SV 50 Accelerometer

SvanPC++ Software



SvanPC++ is an advanced PC software supporting SVANTEK measuring instruments including SV10x, SVAN 95x and SVAN 97x series.

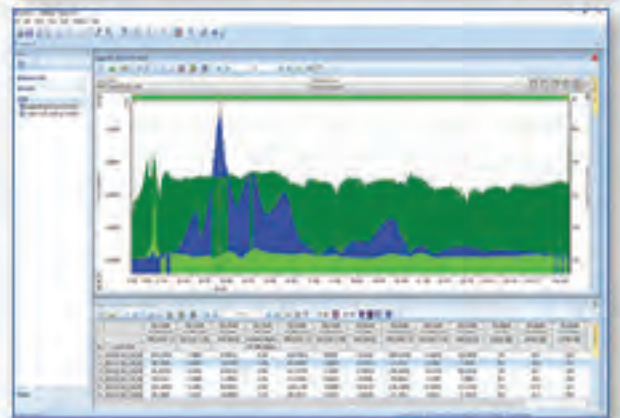
The basic software offers functions of editing instrument settings, downloading data files from instrument as well as data preview and basic recalculations of Leq and RMS (logger step recalculation).

Recently the SvanPC++ has been enriched with the new Projects that allow to combine numerous data files into Sessions. The main advantage of using Projects is the possibility of data comparison as well as an easy report management.

Reports are prepared in a form of panels (text, photos, tables, graphs, plots) and can be exported to Excel™ spread sheet or Word™ text editor applications. Each Project can be saved and recalled in the future.

Features

- Instrument connection Wizard offering setup editor and download of measurement data via USB, Bluetooth® and RS 232
- New Projects with customized views saving
- Leq / RMS logger step recalculation
- Data calculation in marked blocks
- Recalculation of FFT to 1/3 and 1/1 octave spectrum
- Logarithmic / linear units recalculation
- Data shift / clip / delete functions
- Spectrogram view for frequency analysis
- Enhanced data presentation with a secondary Y-axis for plots comparison
- WAVE files playback
- Data export to Word™ and Excel™



Technical Specifications

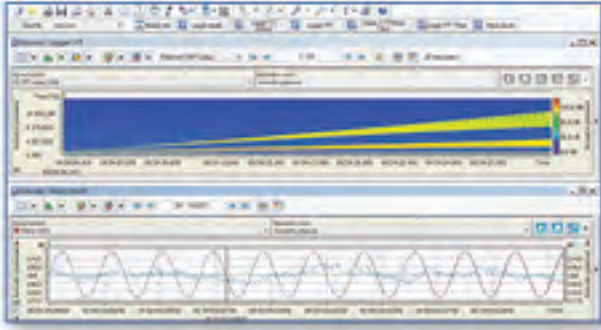
Supported Operating Systems

Windows 7
Windows 8 / 8.1
Windows 10

Minimum PC Requirements

Processor 1.6 GHz
1 GB RAM
200 MB free disk space for installation
5 GB free disk space for operating (e.g. temporary files)

SvanPC++ Wave Analyser

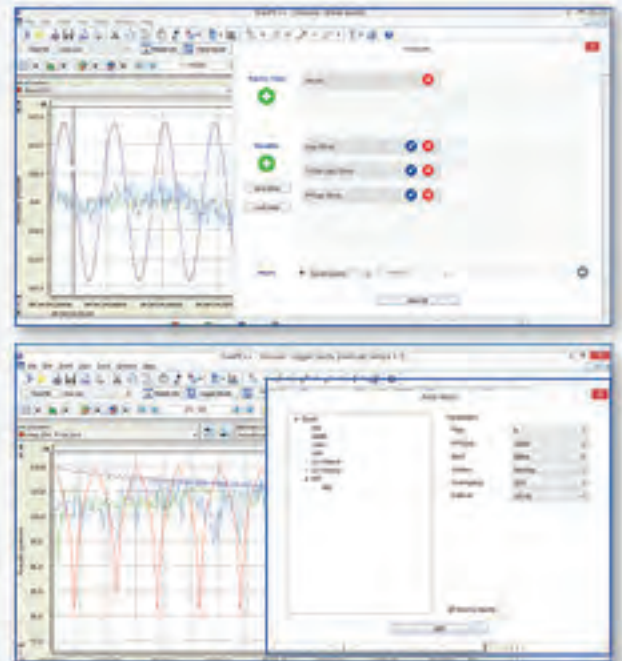


SvanPC++ offers the Wave Analyser that is designed for analysis of wave files from Svantek's noise or vibration instruments. The module provides calculation of overall results such as Leq, Lmax, Lmin, Lpeak as well as 1/3 octave and FFT calculations.

The module has been designed to make calculations from a selected number of wave files enabling for example a tonality analysis from 24 wave files in a single operation.

Features

- New intuitive user interface
- Post-processing of a series of wave files
- Compatibility with tools of SvanPC++_EM
- Noise statistics calculation
- Tonality calculation
- Machine vibration analysis (FFT)
- Calculation of 1/1, 1/3, 1/6 and 1/12 octave spectrum
- Applying filters to the raw signal
- Sound engineering
- Noise statistics calculation



Specifications

Wave sampling frequencies

Sound filters

Vibration filters

Detectors

Broadband results (sound)

Broadband results (vibration)

Results integration period

Spectrum analysis

Octave band analysis bandwidth

FFT window functions

FFT number of analysis points

FFT overlap

51,2 kHz, 48 kHz, 6 kHz ; bits/sample: 8, 16, 24, 32

A, C, Z, G

HP1, HP3, HP10, Vel1, Vel3, Vel10, Dil1, Dil3, Dil10, VelMF, WBxy, WBz, Wm, Wbc, Wv, Wh, HA, Wk, Wd, Wc, Wj, Wg, KB, Wb, BL Wm, BL Wv, BL Wh, BL Wk, BL Wd, BL Wc, BL Wj, BL Wg, BL Wb

Linear (true RMS), F, I, S, 100 ms, 125 ms, 200 ms, 500 ms, 1 s, 2 s, 3 s, 5 s, 10 s

Leq, Lpeak, Lmax, Lmin

RMS, PEAK, MAX, MIN, P-P

up from 1 ms

1/1, 1/3, 1/6, 1/12, FFT

1/1: 1 Hz – 16 KHz, 1/3: 0.8 Hz – 20 kHz

Simple: Rectangle, Bartlett, Parzen, WelchHann (Hanning), Exact Blackman, Nuttall, Blackman, Nuttall Blackman-Harris, Flat top, Cosine, Kaiser-Bessel,

Parametric: Triangle, Hamming, Cosine, Blackman, Gaussian, Tukey, Kaiser (Kaiser-Bessel), Exponential

1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072

0 – 99 %

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SvanPC++ Remote Communication Module

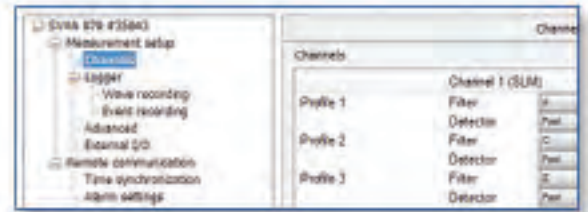
Remote Communication Centre

Remote communication is one of the most important features of unattended monitoring systems. On the PC side communication it is handled by the SvanPC++ Remote Communication Module that offers advanced features such as automatic data download station configuration, CSV and HTML data publishing as well as FTP upload. The heart of the module is the Remote Communication Centre that gives access to all functionalities as well as all monitored stations.



Station Configuration

Station Configuration functionality enables the remote configuration of measurement parameters of noise & vibration monitoring stations. In addition it supports the configuration of settings for advanced alarming.



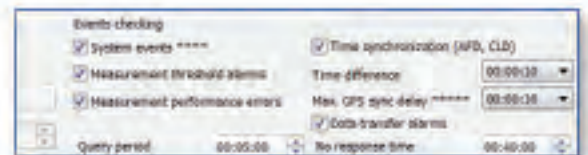
Remote Data Download

Two main download functions are: 'SVAN Files' for manual operations and 'Automatic files download' for programmed data download. The Automatic files download can export the downloaded data into HTML or CSV format and upload it to a FTP server. The functionality is based on Windows™ service and works independently to other applications.



Alarms

SvanPC++_RC is able to send e-mail alarms based on level thresholds or system events (e.g. low battery). The functionality works independently to those alarms that are configured in the monitoring station.



SvanNET connection

The SvanNET simplifies connection between the PC and monitoring station. The solution is based on a relay server supporting 3G connection. In addition to connection support, the SvanNET provides information about monitoring stations. For status checks the SvanPC++_RC gives a direct access to the unique SvanNET account associated with the monitoring station.



Web Interface

Web based server management gives full control of the monitoring station using any web browsing device like a mobile phone, tablet or PC. It's easy to use and no additional software is needed. Users access their SvanNET accounts from devices with an Internet connection through a web browser. Each account allows to manage assigned monitoring stations in means of changes of the measurement settings, data preview and download.



Multipoint Monitoring

SvanNET supports multi-point connection with Svantek's noise & vibration monitoring stations. The monitoring checklist includes measurement status, alarms indication, power source including battery charge, external power information as well as the GSM signal strength.



Advanced Alarms

The advanced alarms function allows to combine triggers based on time, noise level threshold, meteo conditions and spectrum. The system is flexible enough to alert different people depending on the day of the week or the time of day. The alarms can be triggered on the time history data or so called running Leq values (moving window with selectable length).



Plug & Play Monitoring System

The SvanNET is an advanced web-based service with the architecture designed to support Svantek monitoring systems. It works independently 24 hours a day over full year to ensure reliability and accessibility of Svantek's monitoring systems.

Smart solutions implemented into SvanNET enable a plug & play connection to Internet and easy management of measurement projects. Regardless of the SIM card type, Public or Private, SvanNET will establish connection, giving full access to the measurement data.



SvanMobile Application for Smart-phones



The **SvanMobile** application supports Svantek noise and vibration dosimeters equipped with the **Bluetooth®** interface.

Application working on **Android** platforms is easy to install and intuitive to operate.

The user interface allows to preview results in the form of **time-history plots** as well as numerical values.



The application enables to add **PHOTOS** and **VOICE** comments to the measurement projects.

The size of the display of a mobile device makes it convenient to display **SPECTRUM** views such as 1/3 octave analysis.

SvanMobile supports **markers** added to the time-history of measurement results for an easy identification of noise or vibration events.

Measurement Tracking

The automatic Measurement Tracking tool automatically adds records containing the time, location and weather. The data is acquired automatically using the Android device's location services.

The Measurement Tracking tool serves for enclosing additional comments in the form of notes, voice recordings, photos, video clips using the mobile phone capabilities.



Control the measurement using your mobile phone!

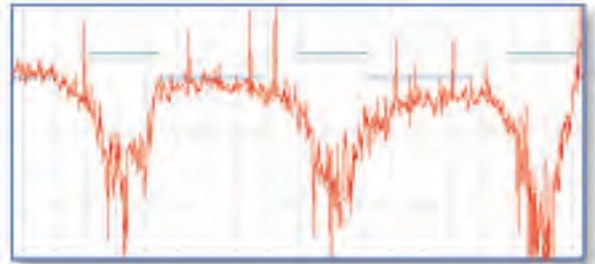
SvanMOBILE is an Android application for devices running on Android platform extending functionalities of SVAN 977A and SVAN 979. SvanMOBILE allows to link measurement files from sound level meter to media files from smartphones such as photos, video or audio recordings. Anyone who makes measurements in the environment will appreciate the fact that SvanMobile can be used to automatically add weather data and GPS position to report on the measurement. To communicate with SVAN 977A / 979 the Bluetooth® interface is used.



SvanPC++ Environmental Measurements Module

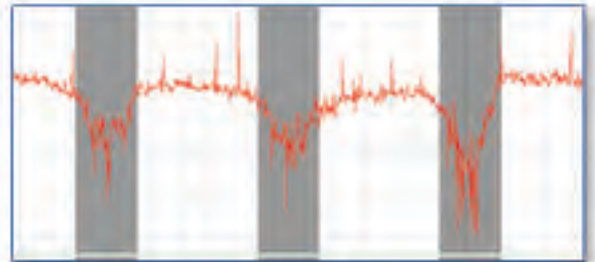
Advanced calculator

SvanPC++ Environmental Monitoring module offers the advanced calculator that works together with logger files containing time histories of noise or vibration signals. The calculator supports analysis of Day/Night/Evening levels, statistics analysis as well as tonality or impulsivity calculation from 1/3 octave spectra. Calculation results are displayed both as a graph and table form.



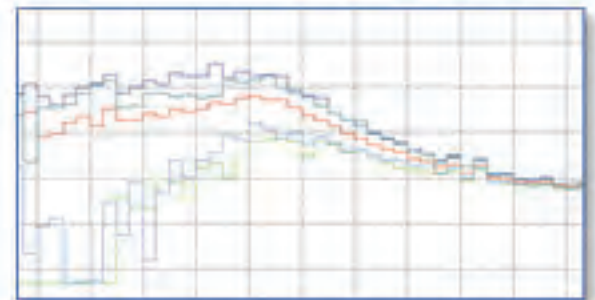
Markers & Block Generator

Environmental measurement often provide large amount of data. The Marker Block Generator browses through the long logger files in search of events defined by the user. It can find data in the given time range and cross check it with noise, vibration or meteo thresholds. Search results can be also filtered by the event duration or time of the day etc.



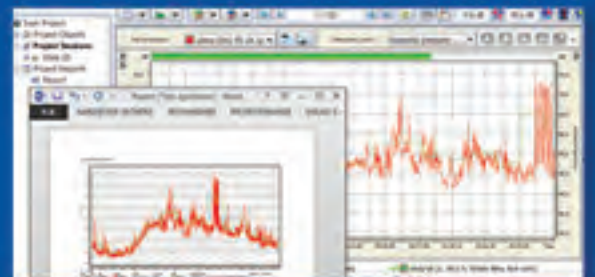
Data comparison

Environmental Monitoring module offers comparison of measurement results with reference ones. An imported file or calculated function can be used as the comparison reference. Comparison of spectra (e.g. 1/3 octave) is also possible.



Reporting

Reporting is based on MS Word™ and it allows to export tables or graphs to a printable text document. Any created report can be saved as a template and used with other data files. Reports and templates are saved together with the Project so they can be recalled whenever necessary.



Accredited calibration services

- Sound level meters to IEC 61672
- Acoustic calibrators to IEC 60942
- Band-pass filters to IEC 61260
- Noise dosimeters (noise exposure meters) to IEC 61252
- Vibration level meters
- Human vibration level meters to ISO 8041
- Vibration calibrators
- Vibration transducers to ISO 16063-21



We guarantee:

- Qualified & fully dedicated staff
- Highest level of competence
- State-of-the-art calibration equipment
- Patterns and equipment in accordance to International System of Units (SI)
- Integrity, impartiality and confidentiality
- Competitive pricing
- Short lead times
- Direct contact with repair service department



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Occupational Noise & Vibration Product Catalogue 2017/2018





SVANTEK specialises in the design and manufacture of professional instrumentation for the measurement and analysis of sound & vibration. Established in Warsaw, Poland in 1990, SVANTEK now supplies products across 40 countries, worldwide.

With 25 years of industry experience, the company has established itself as one of the leading innovators in sound & vibration products, with a global reputation for producing some of the most accurate and reliable instruments on the market.

SVANTEK has been the first company in the world that introduced dual-channel noise dosimeter, in 2006. Since that time, the line of Svantek products dedicated for health and safety made a great impact on the noise and vibration exposure measurements techniques. The Svantek mile-stones list includes:

- the first 6-channel human vibration meter
- the first line of MEMS accelerometers for human vibration
- the smallest class 1 sound level meter
- the first noise dosimeter with a life-time warranty for the MEMS microphone
- the first noise dosimeter with octaves and audio recording
- the first vibration dosimeter
- the first vibration calibrator fully meeting ISO 8041

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14-05
70.9 dB
12 %
65.6 dB

SVANTEK 971

ESC Menu
← →
-REC-
Shift Start/Stop

SVAN 971 Sound Level Meter

SVAN 971 is a **CLASS 1** Sound Level Meter in accordance to IEC 61672-1. The meter is **TYPE APPROVED** in most of the countries around the globe.

The meter is suitable for noise at work measurements in accordance to standards such as **ISO 9612, OSHA, MSHA and ACGIH**.

It is the **SMALLEST** Class 1 instrument on the market. The size and weight are very convenient when making hand-held measurements.

The **TIME HISTORY LOGGING** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on a 8 GB **microSD** card (upgradeable to 128 GB).

The **OLED DISPLAY** is a full color and high contrast so it can be used in a sunlight or even at night. The OLED technology doesn't use back-light giving SVAN 971 more battery operating time. The size of display is a perfect compromise between power savings and visibility.

Once the calibration signal is detected, SVAN 971 starts the **AUTO-CALIBRATION**, saving the calibration data together with the measurement file, both before and after measurement.

The inbuilt **VIBRATION SENSOR** informs meter about vibrations that interfere with noise measurements. In addition, the sensor detects the horizontal position of meter so the meter knows when to **ROTATE** the display.

VOICE ANNOTATIONS (voice comments) before or after the measurements allow easy identification of data files.

SVAN 971 has **USB SOCKET** which can be used for communication with PC software as well as for powering the instrument from an external battery.

One of the biggest advantages of using SVAN 971 is its **POWER EFFICIENCY**. It can run up to 2-3 working days (16-24 hours) on one set of small AAA batteries.



About

The SVAN971 is a Class 1 sound level meter in accordance to IEC 61672. The instrument is extremely small but offers unprecedented state of the art technology. For those who do not need to alter the measurement settings, the SVAN971 has an extremely simple operational mode with only Start/Stop controls. This means that the SVAN971 is the ideal choice for many applications including industrial noise measurement for health and safety, short term environmental noise monitoring and general noise measurements for acoustic consultants or technical engineers. The instrument is easily calibrated in the field using an

acoustic calibrator as the calibration begins automatically when the microphone is inserted into the calibrator. The instrument also includes a built-in vibration sensor that provides information about vibrations that could influence the measurements. The SVAN971 measures broad-band results with all necessary weighting filters as well as 1/1 octave or 1/3 octave band filters. It also offers time-history logging with two adjustable logging steps. The audio events recording allows to listen and recognize noise sources. The data are stored on a microSD card and can be easily downloaded to a PC using the Supervisor software.



SVAN 971 Technical Specifications

| | |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013, Type Approved |
| Weighting Filters | A, B, C, Z |
| Time Constants | Slow, Fast, Impulse |
| RMS Detector | Digital True RMS detector with Peak detection, resolution 0.1 dB |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 18 detachable (60 UNS thread) |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Dynamic Range | >110 dB |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), where x - weighting filter A/ B/ C/ Z; y - time constant Fast/ Slow/ Impulse LR (ROLLING LEQ OPTION), Ovl (OVERLOAD), Lxye (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5 |
| Dosimeter Mode Results | Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), DOSE, (option) DOSE_8h, PrDOSE, LAV, Lxye (option) (SEL), Lxye8 (SEL8), PLxye, (PSEL), E, E_8h, LEPd, PTC (PEAK COUNTER), PTP (PEAK THRESHOLD %), ULT (UPPER LIMIT TIME), TWA, PrTWA, Lc-a Exchange Rate 2, 3, 4, 5, 6 |
| Measurement Profiles | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Statistics ¹ | Ln (L1-L99), complete histogram in meter mode |
| Data Logger ¹ | Time-history logging of summary results, spectra with two adjustable logging steps down to 100 ms |
| 1/1 Octave Analysis ¹ (option) | Real-time analysis meeting Class 1 requirements of IEC 61260, centre frequencies from 31.5 Hz to 16 kHz |
| 1/3 Octave Analysis ¹ (option) | Real-time analysis meeting Class 1 requirements of IEC 61260, centre frequencies from 20 Hz to 20 kHz |
| Audio Recording ¹ (option) | Audio events recording, trigger and continuous mode, 12 kHz sampling rate, wav format |
| Voice Comments | Audio records on demand, created before or after measurement, added to measurement file |
| Ingress Protection Rating | IP 65 (excluding microphone) |
| Memory | MicroSD card 8 GB (removable & upgradeable) |
| Display | Colour 96 x 96 pixels OLED type |
| Keyboard | 8 push buttons |
| Communication Interfaces | USB 2.0 client SV 75 RS 232 cable (option) or SV 76 RS 232 cable with external power supply connector (option) |
| Power Supply | Four AAA alkaline or rechargeable NiMH batteries (not included) operation time 16 h ÷ 24 h (depending on usage) |
| Environmental Conditions | USB interface 100 mA HUB Temperature from -10 °C to 50 °C Humidity up to 95 % RH, non-condensed |
| Physical Characteristics | Dimensions 232.5 mm x 56 x 20 mm (including microphone and preamplifier) Weight Approx. 225 grams with batteries |

¹function operates together with sound level meter mode



What's inside the SVAN 971 kit

The kit consist of SVAN 971 Class 1 sound level meter with detachable preamplifier SV18 and high quality omni-directional SV7052 microphone, compliant to IEC61094-4. The list of accessories includes: SA22 windscreen, 8 GB microSD card, four AAA batteries, USB cable, and CD with user manual. Each SVAN 971 has its factory calibration certificate and 36 months warranty card.



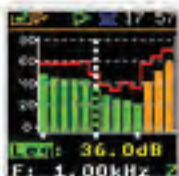
Supervisor Software for SVAN 971

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, NR-15 or NHO-01. The data files from the SVAN 971 can be used for calculation of all required measurement results and uncertainties in accordance to the three measurement strategies described in ISO 9612.

Optional functions



AUDIO RECORDING is synchronized with a noise time-history and it can be opened and played back in Supervisor software enabling noise source recognition. The recording is programmable, it can be triggered on threshold or time and the length of recording can be set as well. It can be activated at any time by ordering the activation code.



FREQUENCY ANALYSIS of the signal in 1/1 or 1/3 octave bands. The 1/1 octave analysis is often used for selection of hearing protectors, diagnostics of faulty equipment or measuring room criteria such as Noise Criterion or Noise Rating. The 1/3 octave function allows to determine the influence of high or low frequencies on overall values. It can be activated at any time by ordering the activation code.



DOSIMETER option provides results such as: 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, Lc-a and the selection of exchange rate between 2, 3, 4, 5, 6. It can be activated at any time by ordering the activation code.

Optional accessories for SVAN 971



SC 91
Microphone
Extension Cable



SA 271
Microphone
Outdoor
Protection Kit



SM 271 LITE
Outdoor
Monitoring
Case



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB
at 1 kHz



SA 420B
Tripod Up To
4 m Height



SVAN 977A Sound & Vibration Level Meter

SVAN 977A is a **CLASS 1** Sound & Vibration Level Meter designed to meet needs of both environmental monitoring and occupational health and safety monitoring specialists.

Disconnecting the microphone preamplifier enables to take **VIBRATION** measurements - simply by connecting a cable and a vibration sensor.

The microphone preamplifier has been **REINFORCED** with a metal collar to protect it against mechanical damages.

The **TIME HISTORY LOGGING** of results such as Leq, Max, Min and Peak with two simultaneous logging steps is saved on a 8 GB **microSD** card (upgradeable to 128 GB).

Large **OLED DISPLAY** is a full color and high contrast so it can be used in a sunlight or night. The OLED technology doesn't use back-light giving SVAN 977 more battery operating time.

With a special microphone the meter provides measurement range of the **ULTRASOUNDS** up to 40 kHz.

The **Bluetooth®** interface connects the meter with the SvanMobile application that allows to trigger measurements, edit settings, rename files and view the results remotely.

Anyone who makes measurements in the environment will appreciate the ability of SvanMobile to automatically add **WEATHER DATA** and **GPS** position to the measurement report.

SvanMobile also allows to link measurement files from the sound level meter to media files from the smartphone such as **PHOTOS**, **VIDEO** or **AUDIO** recordings.



About

The SVAN 977A is a Class 1 Sound and Vibration meter designed for occupational and environmental measurement applications. It provides broad-band results such as Leq, Max, Min and Peak with all standard weighting filters together with an incredible time-history logging feature with two adjustable logging steps.

One unique feature of the SVAN977 is its ultrasound measurement band up to 40 kHz. The ultrasound band is normally considered as the frequency range above

20 kHz. Ultrasound is used in a number of industrial processes such as cleaning, drilling or welding as well as hospitals for medical procedures.

The built-in Bluetooth® interface together with the smartphone application, SvanMobile, extends measurement capabilities with all the features offered by smart-phones including text/voice comments, photo, video, GPS position etc.



What's inside the SVAN 977A kit

The kit consist of SVAN 977A Class 1 sound & vibration level meter with a detachable preamplifier SV12L and high quality omni-directional SV7052E microphone, compliant to IEC61094-4. The list of accessories includes: SA143 carrying case, SA22 windscreen, 8 GB microSD card, four AA batteries, USB cable, and CD with user manual. Each SVAN 977A has its factory calibration certificate and 36 months warranty card.

SVAN 977A Technical Specifications

Sound Level Meter & Analyser

| | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | Class 1: IEC 61672-1:2013 |
| Weighting Filters | A, B, C, Z |
| Time Constants | Slow, Fast, Impulse |
| Microphone | ACO 7052E, 35 mV/Pa, prepolarised 1/2" condenser microphone |
| Preamplifier | SV 12L detachable (TNC) |
| Linear Operating Range | 25 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672) |
| Dynamic Measurement Range | 15 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level) |
| Internal Noise Level | less than 15 dBA RMS |
| Dynamic Range | >110 dB |
| Frequency Range | 10 Hz ÷ 20 kHz |
| Meter Mode Results | Elapsed time, Lxy (SPL), Lx _{eq} (LEQ), Lx _{peak} (PEAK), Lx _{ymax} (MAX), Lx _{ymin} (MIN), LR (ROLLING LEQ), OvL (OVERLOAD), Lx _{ye} (SEL), LN (LEQ STATISTICS), L _{den} , L _{EPd} , L _{tm3} , L _{tm5} |
| Measurement Profiles | Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y) |
| Statistics | Ln (L1-L99), complete histogram in meter mode and 1/1 or 1/3 octave analysis |
| Data Logger | Time-history logging of summary results, spectra with two adjustable logging from 2 ms |
| Audio Recording (option) | Audio records to time-history data or WAV format with selectable band and recording period |

Vibration Level Meter & Analyser

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Standards | ISO 20816-1 |
| Meter Mode | RMS, Max, Peak, Peak-Peak |
| | Simultaneous measurement in three profiles with independent filter sets and detectors |
| Filters | HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, Wh |
| Accelerometer | SV 80 (100mV/g) or any IEPE accelerometer (option) |
| Analyser ¹ | 1/1 octave or optional 1/3 octave real-time analysis, up to 40.0 kHz band, meeting Class 1 requirements of IEC 61260 |
| | FFT analysis 1600 lines, up to 40.0 kHz band (option) |
| | RPM rotation speed measurement parallel to the vibration measurement (option) |
| Data Logger ¹ | Time-history logging of summary results, spectra with two adjustable logging steps from 2 ms |
| Time-domain Signal Recording ¹ | Continuous or triggered time-domain signal recording to WAV format (option) |

General information

| | |
|--------------------------|---------------------------------------------------------------------------------------------------|
| Memory | MicroSD card 8 GB (removable & upgradeable) |
| Display | Super contrast (10000:1) OLED 2.4" colour display (320 x 240 pixels) |
| Interfaces | USB 2.0 Client, Bluetooth®, RS 232 (with optional SV 55) |
| | External I/O - AC output (1 V Peak) or Digital Input/Output (Trigger – Pulse) |
| Power Supply | Four AA batteries operation time > 12 h (6 V / 2 Ah) ² |
| | Four rechargeable AA batteries operation time > 16 h (4.8 V / 2.6 Ah) ² (not included) |
| | External power supply 6 V/500 mA DC ÷ 15 V/250 mA DC |
| | USB interface 500 mA HUB |
| Environmental Conditions | Temperature from -10 °C to 50 °C |
| | Humidity up to 90 % RH, non-condensed |
| Dimensions | 340 x 79 x 39 mm (with microphone and preamplifier) |
| Weight | Approx. 0.6 kg with batteries |

¹ works together with the meter mode

² dependent on instrument operation mode

Supervisor Software for SVAN 977A



Supervisor is a dedicated software for determination of occupational noise exposure. It supports data download, instrument configuration and provides tools for reporting. The data files from the SVAN 977A can be used for calculation of all required measurement results and uncertainties in accordance to measurement strategies described in ISO 9612.



SvanPC++ is an advanced PC software dedicated for data analysis from general noise and vibration measurements. It provides sophisticated functions such as Projects, Environmental Noise & Vibration Calculator or Wave files analyser.

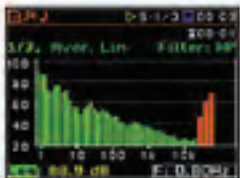


SvanMobile is an application for Android devices that uses the Bluetooth® connection to control the SVAN977A. It allows the user to trigger measurements, edit settings, rename files and view the results remotely. SvanMobile can automatically add weather data and GPS position to the measurement report. SvanMobile also allows to link measurement files from the sound level meter to media files from the smartphone such as photos, video or audio recordings.

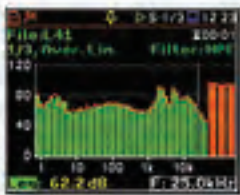
Optional functions



TIME DOMAIN SIGNAL RECORDING means recording the raw signal with the sampling frequency up to 48 kHz. Time signal is recorded in a wave format which means that it can be played back in the PC software and used for noise source recognition (audio recording). Post-processing of wave files such as calculation of FFT or Tonality is available in SvanPC++ program. It can be activated at any time by ordering the activation code.



FREQUENCY ANALYSIS in the 1/3 octave function allows to determine the influence of high or low frequencies on overall values. It can be activated at any time by ordering the activation code.



With a special microphone and **1/3 OCTAVE** or **FFT** analysis SVAN977A provides analysis of the **ULTRASOUNDS** up to 40 kHz. Limits of permissible ultrasound levels are usually expressed in terms of Leq and Max values specified in 1/3 octave bands for 20 kHz, 25 kHz, 31.5 kHz and 40 kHz. It can be activated at any time by ordering the activation code.

Optional accessories for SVAN 977A



SC 26
Extension Cable
for Preamplifier



SA 277
Microphone
Outdoor
Protection Kit



SM 277 PRO
Outdoor
Monitoring
Case



SV 35A Class 1
Acoustic Calibrator
94 dB / 114 dB
at 1 kHz



SA 420B
Tripod Up To
4 m Height



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: **ISO9612**, **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 SV104A 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.

The **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 SV104A long-range **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

The SV104A 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 SV104A 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 SV104A to make noise dosimetry measurements easier, once the SV104A 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.



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 | Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), where x - weighting filter A/ C/ Z; y - time constant Fast/ Slow/ Impulse Lc-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 |
| 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 ¹ | 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 ¹ (optional) | Audio events recording, trigger and continuous mode, 12 or 24 kHz sampling rate, WAV format |
| 1/1 Octave ¹ (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 ¹ (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 (new-type docking station compatible) Long-range Bluetooth®, 4.0 Smart |
| Keyboard | 3 push buttons |
| Power Supply | Li-Ion rechargeable cell operation time > 48 hours ² |
| 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 |

¹function parallel to the acoustic dosimeter mode

²depending on configuration and environmental conditions



What's inside the SV 104A kit

The standard SV104A kit includes ST104A 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 SV104A 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 SV104A can be used for calculation of all required measurement results and uncertainties in accordance to the three measurement strategies described in ISO 9612.

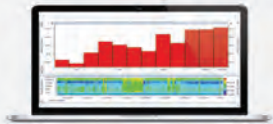


Assistant Application

The SV104A 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



SA147
Waterproof
Carrying Case



SA54
USB Charger



SA122A
Spare Windscreen



SV 34A
Class 2 Acoustic
Calibrator



SA156
USB Hub for 5
Noise Dosimeters



SV104IS Intrinsically Safe Noise Dosimeter

The SV104IS is the **INTRINSICALLY SAFE** personal noise dosimeter in accordance to **ATEX** directive and **IECEx** certification scheme.

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

The SV104IS 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 internal memory. All dosimetry results such as DOSE, TWA, Lav are also included.



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

The dosimeter is suitable for noise exposure measurements in accordance to the **ISO 9612** as well as **OSHA**, **MSHA** and **ACGIH** standards.

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

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

About

The SV104IS is an intrinsically safe noise dosimeter with a robust 1/2" MEMS microphone resistant to mechanical shocks and accidental drop downs. The excellent stability of measurement parameters over the years of use is confirmed by its **LIFETIME WARRANTY**. A new microphone has a large dynamic range of the 90 dB which allows to measure noise from 60 dBA Leq to 140 dB Peak. The long list of microphone advantages includes also the auto-calibration feature and TEDS memory that stores the calibration info in the microphone itself. The auto-calibration means performing acoustic calibration automatically once the microphone is inserted into the calibrator.

The SV104IS is a cable-free dosimeter and is typically

attached to the user's shoulder, close to the ear using the mounting clips supplied. All results are clearly displayed on the amazing OLED screen which offers excellent visibility even in a full daylight or darkness.

The instrument works with Svantek's health and safety software package, "Supervisor", that provides various tools for data analysis and reporting. The docking station supports data transfer to the PC as well as handles battery charging. The SV104IS rechargeable batteries usually power the instrument up to 50 hours.

Additional features like 1/1 octave band real-time analysis and audio events recording can be activated at any time, by ordering an activation code.



SV 104IS Noise Dosimeter Technical Specifications

| | | |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Standards | IEC 61252 ed1.1 (2002); ANSI S1.25-1991 (R2007); Class 2 IEC 61672-1 ed2.0 (2013) CAN/CSA C22.2 No 61010-1; CAN/CSA C22.2 No 60079-0; CAN/CSA C22.2 No 60079-11 ANSI/UL 61010-1; ANSI/UL 60079-0; ANSI/UL 60079-11 NRTL certification for USA and Canada: QPS file no LR1356-1 NRTL device marking: cQPSus, Ex ia IIC T4 Ga, Class I, Zone 0, AEx ia IIC T4 Ga ATEX: EN 50303:2000, EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007; certificate number: FTZU 14 ATEX 0055X IEC 60079-0 ed6.0 (2011), IEC 60079-11 ed6.0 (2011), certificate number IECEX FTZU 15.0001X Hazardous locations markings: I M1 Ex ia I Ma; II 1G Ex ia IIC T4 Ga; A, C and Z Slow, Fast, Impulse 2, 3, 4, 5, 6 Lxy (SPL), Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), where x - weighting filter A/ C/ Z; y - time constant Fast/ Slow/ Impulse Lc-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 3 with independent settings of filters (x) and time constants (y) SV 27IS MEMS microphone, 1/2" housing 60 dBA RMS ÷ 140.1 dBA Peak 20 Hz ÷ 10 kHz 90 dB Summary results for the measurement time and time-history logging of Leq/Max/Min/Peak with adjustable logger step down to 1 s Audio records on demand, created before or after measurement, added to measurement file Short audio events recording on trigger during measurement (optional) 1/1 octave real-time analysis, IEC 61260: Class 1 (optional); 9 filters with centre frequencies from 31.5 Hz to 8 kHz OLED 128 x 64 pixels IP 65 64 MB Infrared (docking station required) 3 push buttons Li-Ion rechargeable cell ² operation time 50 hours ³ Environmental Conditions Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed 88 x 49.5 x 19.2 mm 117 grams with batteries | |
| Weighting Filters | | |
| Time Constants | | |
| Exchange Rates | | |
| Measurement Results | | |
| Measurement Profiles | | |
| Microphone | | |
| Measurement Range | | |
| Frequency Range | | |
| Dynamic Range | | |
| Data Logging ¹ | | |
| Voice Comments | | |
| Audio Recording ¹ | | |
| 1/1 Octave ¹ | | |
| Display | | |
| Ingress protection | | |
| Memory | | |
| Interface | | |
| Keyboard | | |
| Power Supply | | |
| Dimensions | | |
| Weight | | |

¹function parallel to the acoustic dosimeter mode

²docking station required for battery recharging

³dependent on configuration



What's inside the SV 104IS kit

The standard SV104IS kit includes SV27IS shock resistant MEMS microphone with a life-time warranty, a windscreen with a stainless steel mounting thread. The dosimeter has inbuilt 64 MB memory and a license for PC software (for communication with a PC the optional docking station is required). Each SV104IS has its factory calibration certificate and 36-months warranty card.



SV104IS K1 and SV104IS K5 kits

The SV104IS dosimeter is also available in dedicated kits. The **K1** kit includes a SV104 IS dosimeter together with docking station for a single unit and the acoustic calibrator. The kit comes in a waterproof carrying case. The **K5** kit includes: five SV 104IS dosimeters, docking station for five dosimeters, the acoustic calibrator and carrying case for 5 dosimeters.



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 SV104IS can be used for calculation of all required measurement results and uncertainties in accordance to the three measurement strategies described in ISO 9612.

Optional functions



The option for **1/1 OCTAVE** 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



SA104-1
Docking Station for
Single Dosimeter



SA104-5
Docking Station
for 5 Dosimeters



SA147
Waterproof Carrying
Case for Noise
Dosimeter and Single
Docking Station



SV 34Class 2
Acoustic Calibrator
114 dB at 1 kHz



SA144
Carrying Case for
5 Dosimeters and
Docking Station for
5 Units



SV 102A+ Class 1 Dual-Channel Noise Dosimeter

The SV102A+ is a **DUAL-CHANNEL** noise dosimeter designed for the accurate measurement of noise exposure to ISO 9612, OSHA and NIOSH standards. The two channel technology allows for noise exposure levels to be assessed simultaneously on **BOTH SIDES OF THE HEAD**.

The meter meets **CLASS 1** requirements of IEC 61672 and it can be used when measuring at very **LOW TEMPERATURES** (from -10 °C) or when noise is **DOMINATED BY HIGH FREQUENCIES** as it is recommended by ISO 9612.

The colour digital display is an **OLED** screen with a high contrast visibility even in full daylight or in low ambient light areas. It displays information in both text and graphical form.

The **AUTO-CALIBRATION** facility makes the SV102A+ very easy to use. Once the instrument detects the calibration signal it starts the calibration process automatically, saving the calibration data together with the measurement file, both before and after measurement.

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.



ISO 11904-1 MIRE (microphone in real ear) measurement takes sound measurements from the ear and performs the one-third octave band analysis. The SV102A+ can perform such analyses using a special microphone probe SV25S placed at the entrance of the ear canal. **MIRE** can be used to measure noise exposure in situations where normal dosimetry methods are inappropriate such as in a **TELEPHONE CALL CENTRE** where the sound comes from headphones. The option of MIRE measurements requires the SV 25S MIRE microphone and 1/3 octave analysis.

About

The SV102A+ is a Class 1 dual-channel noise dosimeter that has been designed for the accurate measurement of noise exposure to ISO 9612 and MIRE (microphone in real ear) measurements to ISO 11904-1.

A typical application of MIRE measurement is a noise exposure monitoring in telephone call centres where the sound comes from headphones; an application not suited to classical dosimetry methods.

MIRE measurement involves measuring the sound in the ear and performing a one-third octave band analysis on it.

SV102A+ gives the unique opportunity to assess the exposure on both sides of the head simultaneously. This is particularly important when a worker is exposed to noise coming from a dominant directional source where placing the microphone on only one side could understate the true level of noise exposure.

Another use of dual channel technology is the simultaneous measurement with the standard microphone outside and the MIRE inside any hearing protection.



SV 102A+ Technical Specifications

| | | |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Standards | IEC 61252; ANSI S1.25-1991; Class 1: IEC 61672:2013, ISO 11904-1 | |
| Acoustic Dosimeter Mode | Lav/Leq, SPL, Lmax, Lmin, SEL, SEL8, PSEL, LEPd, Dose (%), TWA, E, E_8h, Peak, Run Time, Upper Limit Time (ULT), L(C-A), Projected Dose (D_8h) | |
| SLM Mode | Leq, Spl, SEL, LEP,d, Lden, Ltm3, Ltm5, statistics - Ln (L1- L99), LMax, LMin, LPeak Simultaneous measurement in three profiles with independent set of filters and detectors | |
| Weighting Filters | A, C and Z | |
| RMS Detector | Digital true RMS detector with Peak detection, resolution 0.1 dB Time constants: Slow, Fast, Impulse | |
| Microphone | SV 7052E, prepolarised, 1/2" housing SV 25S, special microphone with dedicated probe for Microphone-In-Real-Ear technique (option) | |
| Preamplifier | SV 15 with integrated cable | |
| Measurement Range | 45 dBA RMS ÷ 141 dBA Peak (with SV 7052E microphone) | |
| Typical Noise Floor | less than 35 dBA | |
| Frequency Range | 20 Hz ÷ 20 kHz, sampling rate 48 kHz (with SV 7052E microphone) | |
| Dynamic Range | 100 dB | |
| Data Logger ¹ | Time-history logging of Leq/Lmax/Lmin/Peak/Lav results to internal memory with time step down to 100 millisecond to microSD card | |
| Audio Recorder ¹ | Time-domain signal events recorder (option) | |
| Dual-channel Mode | Dual-channel measurement mode with second microphone SV 7052E or SV 25S | |
| 1/1 Octave ¹ | Dual-channel 1/1 octave real-time analysis and spectra logging, 10 filters with centre frequencies from 31.5 Hz to 16 kHz, Type 1: IEC 61260 (option) | |
| 1/3 Octave ¹ | Dual-channel 1/3 octave real-time analysis and spectra logging, 31 filters with centre frequencies from 20 Hz to 20 kHz, Type 1, IEC 61260 (option) | |
| Input | 2 x LEMO 2-pin, Direct | |
| Display | Colour 160 x 128 pixels OLED type | |
| Memory | MicroSD card 4 GB (removable & upgradeable) | |
| Interfaces | USB 1.1 Client, Extended I/O - AC output (1 V Peak) / Digital Output (Alarm trigger) / Digital Input (Input trigger) | |
| Power Supply | Two AA batteries (alkaline) | operation time > 16 h (3.0 V / 1.6 Ah) ² |
| | Two rechargeable batteries (not included) | operation time > 20h (2.4 V / 2.6 Ah) ² |
| | USB interface | 150 mA HUB |
| Environmental Conditions | Temperature | from -10 °C to 50 °C |
| | Humidity | up to 90 % RH, non-condensed |
| Dimensions | 95 x 83 x 33 mm (without microphones) | |
| Weight | 260 grams with batteries (without microphones) | |

¹function parallel to the meter mode
²depending on configuration and environmental conditions

Our Company's policy is based upon continuous product development and innovation.
 Therefore, we reserve the right to change the specifications without any prior notice whatsoever.



What's inside the SV 102A+ kit

The standard SV102A+ kit includes SV15 preamplifier with cable, SV 7052E microphone, 2x AA batteries, 8 GB memory card and a USB cable for communication with PC. Each SV102A+ has its factory calibration certificate and a **36-MONTH WARRANTY CARD** that is also applicable to the microphone. The standard kit also includes license for PC software.



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 102A+ can be used for calculation of all required measurement results and uncertainties in accordance to the three measurement strategies described in ISO 9612.

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 a 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



SV 15
Microphone
Preamplifier
with a Clip



SV7052E
Condenser
Microphone



SV35A
Class 1 Acoustic
Calibrator



SV 25S
MIRE Microphone



SA131
Calibration
Adapter for MIRE



Acoustic Calibrators Technical Specifications

| | SV 35A | SV 33A | SV 34A |
|---------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------|
| Calibration Signal Parameters: | | | |
| Sound Pressure Level (SPL) | 114 dB or 94 dB | 114 dB | 114 dB |
| IEC 60942:2003 Accuracy | Class 1 | Class 1 | Class 2 |
| SPL Accuracy | ± 0.3 dB | ± 0.3 dB | ± 0.5 dB |
| Frequency Accuracy | ± 0.2 % | ± 0.2 % | ± 0.2 % |
| Total Harmonic Distortion (THD) | < 0.50 % for 94 dB < 0.75 % for 114 dB level | < 0.75 % | < 0.75 % |
| General Information: | | | |
| Effective Load Volume Sensitivity | 0.00027 dB / mm3 | 0.00027 dB / mm3 | 0.00027 dB / mm3 |
| Level Stabilisation Time | typically 15 s, max 30 s | typically 15 s, max 30 s | typically 15 s, max 30 s |
| Calibrated Microphones | 1/2" and 1/4" with SA 30 adapter | 1/2" and 1/4" with SA 30 adapter | 1/2" |
| Storage Temperature Range | -25 °C ÷ +70 °C | -25 °C ÷ +70 °C | -25 °C ÷ +70 °C |
| CE Classification | EN 61010-1: 2010 EN 61326-1:2006 EN 61326-1:2006 EN 60942:2003 | EN 61010-1: 2010 EN 61326-1:2006 EN 55022:2010 EN 60942:2003 | EN 61010-1: 2010 EN 61326-1:2006 EN 55022:2010 EN 60942:2003 |
| Working Conditions: | | | |
| Temperature Range | from -10 °C to +50 °C (related SPL error ≤ ±0.15 dB) | from -10 °C to +50 °C (related SPL error ≤ ±0.15 dB) | from 0 °C to +40 °C (related SPL error ≤ ±0.2 dB) |
| Atmospheric Pressure Range | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) | from 65 kPa to 108 kPa (related SPL error ≤ ±0.10 dB) |
| Humidity Range | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) | from 25 % to 90 % RH (related SPL error ≤ ±0.05 dB) |
| Reference conditions: | | | |
| Ambient Temperature | 23 °C | | |
| Atmospheric Pressure | 101.3 kPa | | |
| Humidity | 30 % ÷ 80 % RH | | |
| Effective Microphone Load Volume | 250 mm3 for microphone type B&K 4134 | | |
| Power supply: | | | |
| Battery Type | 2 x LR03 (IEC) / AAA (ANSI) alkaline batteries | | |
| Continuous Operating Time | 40 hours for 94 dB level, 30 hours for 114 dB level | | |
| Stand-by Period | around two years | | |
| Minimal Voltage Requirements | 2.1 V | | |
| Overall weight and dimensions | | | |
| Weight | 310 grams including batteries | | |
| Dimensions | 65 x 65 x 70 millimetres | | |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

SV 35A, SV33A, SV34A Acoustic Calibrators

The SV 35A Class 1 acoustic calibrator features an **OPTIC SENSOR** that detects microphone presence and turns on the calibrator automatically.

SVANTEK calibrators are based on the reference microphone and microprocessor controlled signal source including digital static **PRESSURE** and **TEMPERATURE** compensation. Due to the feedback regulation control loop our calibrators do not require any adjustments of the level and operate over a wide range of ambient temperature and humidity levels.

Unlike many others, the SVANTEK calibrators feature a **ROBUST HOUSING** that gives the comfort of a secure grip to the user.

The accuracy of acoustic calibrator should match the class of the sound level meter. A **CLASS 1** (SV33A or SV35A) or **CLASS 2** (SV34A) calibrator should be used, depending on the class of instrument.

SV 34A and SV33A provide 114 dB calibration level whereas the SV 35A offers two levels **94 dB or 114 dB**.

The user interface of the calibrator is equipped with a **PUSH BUTTON** and a **LED** diodes signaling calibration and battery faults.



Is my result correct?

The only way to be sure that you can answer 'yes' to this questions is to perform an acoustic calibration using a calibrator that fully conforms to current standards. The norms and standards impose the requirement to calibrate the measurement channel before each measurement or measurement session and after the measurement as well for result verification purposes. If you don't perform these basics checks then what do your results actually mean?

An acoustic calibrator is a device which produces an acoustic pressure of defined level and frequency. In other words, an acoustic calibrator is a template of acoustic pressure. With the help of such a reference template we can check the accuracy of the measurements performed with the sound level meter and adjust it if a drift error in sensitivity is indicated.

The accuracy of acoustic calibrators used for the calibration of the measurement path should match the class of sound level meter. Depending on the instrument's performance Class 1 or

Class 2 calibrators are used. A sound level meter is calibrated correctly only if the measurement error is within the allowed range of tolerance defined by the standards for the meter of a given class (defined by IEC 61672: 2002).

Unlike many others, the Svantek calibrators feature a robust housing that gives the comfort of a secure grip to the user. The interior design of our acoustic calibrators is based on the reference microphone and microprocessor controlled signal source including digital static pressure and temperature compensation. Due to the feedback regulation control loop our calibrators do not require any adjustments by the user and operate over a wide range of ambient temperature and humidity assuring excellent stability of the calibration levels and their frequency.

Each acoustic calibrator is provided with a statement of the calibration which allows the user to be certain that their instruments will measure correctly.



SV 106A 6-Channel Human Vibration Meter

The SV 106A is a **SIX-CHANNEL** human vibration meter. It can be used with 2 tri-axial sensors to simultaneously measure vibrations on **BOTH HANDS OR ONE HAND AND A SEAT**.

The meter meets **ISO 8041** requirements and supports various vibration sensors both IEPE and MEMS type.

The SV106A offers the superior operational time on battery when used with dedicated SVANTEK **MEMS** sensors SV105A or SV 38V.

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

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.

The second parts of ISO 2631 and DIN 4150 refer to **HUMAN VIBRATION IN BUILDINGS**. Both standards provide different indicators and frequency weighting for the same type of measurement.

All required parameters are available in the SV106A so it can be configured to the requirements of the selected standard. For this application SV106A is using the SV207B metal mounting base with the SV 84 accelerometer which is placed in the middle of the workplace floor.



The SV106A is suitable for vibration exposure measurements in accordance to the **ISO 5349** as well as **ISO 2631**.

The **A(8) VIBRATION EXPOSURE** is calculated in real time and results from both sensors are displayed simultaneously in **VDV** and **RMS UNITS** or **POINTS**. In addition to exposure values, the SV 106A calculates time left to limits suggesting the safe working time for the user.

The methods of evaluation of **VEHICLE SEAT VIBRATION** are described in ISO 10326. Following this standard SEAT values are the ratio of the vibration exposure at the seat to that at the floor, where a complete rigid seat would have a value of 1.0. For this application the SV106A is using two sensors the SV 38V and SV151.

Vibrations with frequencies below 0.5 Hz cause so called **MOTION SICKNESS**, primarily in the standing and sitting postures. This type of vibrations are typical for **SHIPS** and other **SEA VESSELS**. The most recognized symptoms of motion sickness are dizziness and vomiting. The SV 106A with a SV 38V MEMS sensor is capable to measure vibration frequencies from 0.1 Hz which makes it suitable for motion sickness measurements in accordance to ISO 2631-1. The low frequency vibrations are measured in vertical axis with Wf weighting filter.

About

SV 106A Six-channel Human Vibration Meter and Analyser meets requirements of ISO 8041:2005 standard and it is an ideal choice for measurements according to ISO 2631-1,2&5, ISO 5349 and directive 2002/44/EC of European Parliament. This revolutionary, pocket-size instrument enables simultaneous measurements with two triaxial accelerometers (e.g. both-hands vibration or triaxial SEAT transmission measurements are possible). The RMS, Peak, Peak-Peak, VDV, MTVV or dose results such as A(8) and AEQ with all required weighting filters for human vibration measurements, including band-limiting filters, are

available with this instrument. Using computational power of its digital signal processor, the SV 106A can perform 1/1 or 1/3 octave real-time analysis simultaneously to the meter mode. Advanced time-history logging and time-domain signal recording (according to the ISO 2631-5) to the microSD flash card offer a great data input for detailed signal analysis. Results can be easily downloaded to PC using USB interface. The instrument works with Svantek's specialist health and safety software package, "Supervisor", and also with the full analysis package SVAN PC++.



SV 106A Human Vibration Meter Technical Specifications

| | |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards | ISO 8041:2005; ISO 2631-1:1997; ISO 2631-2:2003; ISO 2631-5:2004; ISO 5349-1:2001; ISO 5349-2:2001 |
| Meter Mode | ahw (RMS HAND-ARM), ahv (VECTOR HAND-ARM), aw (RMS WHOLE-BODY), awmax (RMS MAX WHOLE-BODY), VDV, MaxVDV, awv (VECTOR WHOLE-BODY), A(8) Daily Exposure, ELV Time (TIME LEFT TO LIMIT), EAV Time (TIME LEFT TO ACTION) MTVV, Max, Peak, Peak-Peak |
| Profiles per Channel | 2 |
| Filters in Profile (1) | Wd, Wk, Wm, Wb, Wc, Wj, Wg, Wf (ISO 2631), Wh (ISO 5349) |
| Filters in Profile (2) | HP, KB, Vel3 (for PPV measurement), Band Limiting Filters according to ISO 8041:2005 |
| RMS & RMQ Detectors | Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB |
| Measurement Range | Transducer dependent: 0.01 m/s ² RMS ÷ 50 ms ⁻² Peak (with SV 38V and Wd filter) 0.1 m/s ² RMS ÷ 2000 ms ⁻² Peak (with SV 105A and Wh filter) |
| Frequency Range | 0.1 Hz ÷ 2 kHz (transducer dependent) |
| Data Logger | Time-history data including meter mode results and spectra |
| Time-Domain Recording ¹ | Simultaneous x, y, z time-domain signal recording, sampling frequency 6 kHz (optional) |
| Analyser ¹ | 1/1 octave real-time analysis with centre frequencies from 0.5 Hz to 2000 Hz (optional) 1/3 octave real-time analysis with centre frequencies from 0.4 Hz to 2500 Hz (optional) |
| Accelerometer (optional) | SV 38V integrated tri-axial accelerometer for Whole-Body measurements SV 105A integrated tri-axial accelerometer including hand straps SV 105AF integrated tri-axial accelerometer with force sensors including hand straps SV 150 integrated tri-axial accelerometer with adapter for direct attaching to hand-held power tools SV 151 integrated tri-axial accelerometer for SEAT transmissibility measurements SV 84 tri-axial IEPE accelerometer for ground / building vibration measurements |
| Input | 2 x LEMO 5-pin: six channels Direct or IEPE type and 2 channels for force transducers |
| Dynamic Range | 90 dB |
| Force Range | 0.2 N ÷ 200 N (only with an optional SV 105AF) |
| Sampling Rate | 6 kHz |
| Memory | Internal 16 MB non-volatile memory 8 GB Micro SD card included (micro SD flash card slot supports cards up to 16 GB) |
| Display | Super contrast (10000:1) OLED 2.4" colour display (320 x 240 pixels) |
| Interfaces | USB 1.1 Client, Extended I/O - AC output (1 V Peak) or Digital Input/Output (Trigger - Pulse) |
| Power Supply | Four AA batteries (alkaline) operation time > 12 h (6.0 V / 1.6 Ah) ² Four AA rechargeable batteries operation time > 16 h (4.8 V / 2.6 Ah) ² (not included) USB interface 500 mA HUB |
| Environmental Conditions | Temperature from -10 °C to 50 °C Humidity up to 90 % RH, non-condensed |
| Dimensions | 140 x 83 x 33 mm (without accelerometer) |
| Weight | Approx. 390 grams including batteries (without accelerometer) |

¹function parallel to the meter mode

²depending on configuration and environmental conditions



What's inside the SV 106A kit

The standard SV106A kit includes 8 GB microSD card and USB cable for the communication with PC software (license for PC software is included). Each SV106A has its factory calibration certificate and 36-months warranty card. The set of 4 AA batteries is also included.



Supervisor Software

Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational vibration exposure from measurements in accordance to ISO 2631-1 and ISO 5349-2 standards. Measurement results are expressed in m/s^2 and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector. All information displayed within the panel window is directly printable to the report.

Optional functions



ISO standards imply to be desirable to report (unweighted) one-third-octave band root-mean-square acceleration magnitudes over the frequency range of the measurement system. Frequency analysis such as **1/3 OCTAVE** provides information on dominant frequencies and harmonics, which may help engineers to identify effective vibration control measure as well as detection of artifacts. It can be activated at any time, by ordering an activation code.



To meet the requirements of ISO 2631-5 the SV106A offers a possibility of recording the raw time domain signal to the **WAV FORMAT**. The mentioned standard describes the dose calculation from the time domain signal in case of multiple shocks. It can be activated at any time, by ordering an activation code.

Dedicated MEMS accelerometers and accessories

MEMS accelerometers which have many advantages including shock resistance, no DC-shift effect, very low power and frequency response down to DC.



SV 105A
Tri-Axial
Hand-Arm Vibration
Accelerometer



SV 105AF
Tri-Axial
Hand-Arm Vibration
Accelerometer with
Force Detection



SV 150
Tri-Axial
Hand-Arm Vibration
Accelerometer



SV 151
Tri-Axial
SEAT Vibration
Accelerometer



SV 38V
Whole-Body
Vibration
Accelerometer



SV 110
Hand-Arm
Vibration
Calibrator



SV 111
Hand-Arm and
Whole-Body Vibration
Calibrator



SA 105A
Calibration Adapter
to SV105A and
SV105AF



SA 89
Belt Bag
for SV 106A



SA 146
Carrying Case
for SV 106A and
accessories



SV 103 Hand-Arm Vibration Dosimeter

The SV103 measures the A(8) vibration exposure in accordance with the **ISO 5349-2 and European 2002/44/EC** both in m/s^2 and points. The instrument significantly decreases the measurement uncertainty related to the estimation of daily exposure time as it is small enough to take daily vibration exposure measurements without interfering with normal working activities.

The instrument is equipped with **4 PUSH BUTTONS** and an **OLED** display that allows basic configuration in the field.

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

The SV107 tri-axial **MEMS** accelerometer is extremely robust, **SHOCK RESISTANT**, uses very low power and is free of the DC-shift effect that adversely affects systems based on piezoelectric accelerometers.

The **SV107 TRI-AXIAL** accelerometer meets requirements of the ISO 5349 and is worn on the palm of the hand so it can be used underneath gloves.

The SV103 is **FULLY CONFIGURABLE** in Supervisor software. Settings such as 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 RMS, VECTOR, Max, Min, Peak and Force with two simultaneous logging steps is saved in **8 GB** memory.

ISO 5349-2 mentions that **CONTACT FORCE** measurement should be used to detect when the worker's hands first make contact with the vibrating surface and also when contact is broken. With the SV107 vibration sensor, it became possible to automatically obtain information about the period that the hand is in contact with the vibrating surface and to evaluate the total **CONTACT TIME PER DAY**.

About

SV 103 Personal Human Vibration Exposure meter is dedicated to hand-arm vibration measurements. The instrument meets ISO 8041:2005 and is the ideal choice for making measurements according to ISO 5349 and European Directive 2002/44/EC. The SV 103 significantly decreases the measurement uncertainty as the instrument is attached to the user's arm and is small enough to take daily vibration exposure measurements without interfering with normal working activities.

The SV 103 uses our latest accelerometer, the SV 107, that has a contact force sensor in addition to the standard accelerometer. Contact force is the sum of grip force and push force and is therefore a measurement of how firmly a user is holding the vibrating tool. This is a recommendation of the new standards and the reading from the contact

force sensor is also displayed on the screen. The SV 107 accelerometer is based on MEMS, the very latest in transducers technology. MEMS gives many advantages including shock resistance, very low power consumption and frequency response down to DC. The usage of MEMS breaks the technological barrier of a weight and dimensions additionally reducing the cost of the complete system.

The SV103 is powered using rechargeable batteries charged through the USB interface which also enables easy interconnection between the instrument and a PC. The measurement data is safely stored in the large 8 GB memory. The instrument works with our powerful "Supervisor" software which allows instrument configuration as well as viewing and exporting of measurement data and daily vibration exposure recalculations.



SV 103 Technical Specifications

| | | |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Standards | ISO 8041:2005; ISO 8041:2005, ISO 5349-1:2001; ISO 5349-2:2001; | |
| Meter Mode | ahw (RMS), ahv (VECTOR), Max, Peak, Peak-Peak, A(8) Daily Exposure, ELV Time (TIME LEFT TO LIMIT), EAV Time (TIME LEFT TO ACTION) | |
| Filters | Wh (ISO 5349) and corresponding Band Limiting filter (ISO 8041) | |
| RMS Detectors | Digital true RMS detector with Peak | |
| Measurement Range | 0.2 m/s ² RMS ÷ 2000 m/s ² PEAK | |
| Frequency Range | 1 Hz ÷ 2000 Hz | |
| Data Logger ¹ | Time-history data including meter mode results and spectra | |
| Time-Domain Recording ¹ | Simultaneous x, y, z time-domain signal recording (optional) | |
| Analyser ¹ | 1/1 octave real-time analysis (optional) 1/3 octave real-time analysis (optional) | |
| Accelerometer | Detachable SV 107 MEMS based tri-axial accelerometer with hand straps in accordance to ISO 5349 | |
| Memory | 8 GB | |
| Display | OLED 128 x 64 pixels | |
| Interfaces | USB 2.0 client | |
| Power Supply | Ni-MH rechargeable cells | operation time > 24 hours ² |
| | USB interface | 500 mA HUB |
| Environmental Conditions | Temperature | from -10 °C to 50 °C |
| | Humidity | up to 90 % RH, non-condensed |
| Dimensions | 88 x 49.5 x 19.2 mm (instrument without accelerometer, cable and mounting stripes) | |
| Weight | 150-160 grams with SV 107 accelerometer and one of vibration contact adapters | |

¹function parallel to the meter mode

²depending on configuration and environmental conditions

Ovi Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.



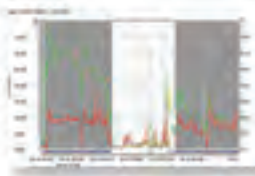
What's inside the SV 103 kit

The standard SV103 kit includes personal vibration meter together with a detachable tri-axial accelerometer SV107 with set of adapters for a hand mounting. The USB cable for the communication with PC software (license for PC software is included) and the SA 54 charger for recharging the inbuilt battery is provided. Each SV103 has its factory calibration certificate and 36-months warranty card.



Supervisor Software

Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational vibration exposure from measurements in accordance to ISO 5349-2 standard. Measurement results are expressed in m/s^2 and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector. All information displayed within the panel window is directly printable to the report.



Contact force detection

ISO 5349-2 mentions that contact force measurement should be used to detect when the worker's hands first make contact with the vibrating surface and also when contact is broken. With the SV103 it became possible to automatically obtain information about the period that the hand is in contact with the vibrating surface and to evaluate the total contact time per day.

Optional functions



ISO standards imply to be desirable to report (unweighted) **ONE-THIRD-OCTAVE BAND** root-mean-square acceleration magnitudes over the frequency range of the measurement system. Frequency analysis such as **1/3 octave** provides information on dominant frequencies and harmonics, which may help engineers to identify effective vibration control measure as well as detection of artifacts. It can be activated at any time, by ordering an activation code.



The SV103 offers a possibility of recording the raw **TIME DOMAIN SIGNAL** to the WAV format. The raw signal can be used for a detailed vibration analysis in order to improve the vibration characteristics of the hand-held tools. It can be activated at any time, by ordering an activation code.

Optional accessories



SV 110
Hand-Arm
Vibration
Calibrator



SV 111
Hand-Arm and
Whole-Body Vibration
Calibrator



SA 105A
Calibration Adapter
to SV105A and
SV105AF



SA 76
Waterproof
Carrying Case



SA 47M
Carrying Bag
Fabric Material



SV 100A Whole-Body Vibration Dosimeter

The SV100A measures the A(8) vibration exposure and the overall vibration total value (VECTOR) in accordance with **ISO 2631-1 and EU Vibration Directive**. The A(8) result is given in: m/s^2 (RMS), $\text{m/s}^{1.75}$ (VDV) and points. The SV100A monitors the time left to limits and activates the alarm when the limits are reached.

The instrument is equipped with **4 PUSH BUTTONS** and a small **OLED** display that allows basic configuration in the field.

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

The SV100A is **FULLY CONFIGURABLE** in Supervisor software. Settings such as 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 RMS, VECTOR, VDV, Max, Min and Peak with two simultaneous logging steps is saved in **8 GB** memory.



The **FORCE SENSORS** in the SV100A automatically **DETECT** the presence of a user or **VEHICLE DRIVER** which enables real daily exposure calculations for the period of time when the user is in contact with the vibrating surface.

The SV100A **wireless BT** 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 vibration limits are exceeded. The Assistant enables correlation of **GPS** data with the vibration data and plots them on a map. This solution gives a powerful tool for projecting the A(8) vibration exposure with respect to the vehicle speed and road conditions.

About

The SV100A is a wireless whole-body vibration exposure meter suitable for whole-body measurements in accordance with ISO 2631-1. Suitable for taking measurements both on the seat and seat-back, the device uses the very latest technology and is ease of use. The instrument is equipped with 4 push buttons and a small OLED display that allows basic configuration in the field.

The wireless BT communication interface enables current results to be previewed on a smart-phone or tablet using our Assistant Android application.

The smart-phone app can also signal an alarm when set vibration limits are exceeded. Our advanced technology enables the automatic detection of an operator in the workplace. By default the instrument is configured for seat measurements (in a horizontal direction) but this setting can be easily changed.

When changing the orientation of the SV 100A to

the vertical, the directions of axes and weighting filters are automatically adjusted in accordance to ISO 2631-1.

The device is equipped with both RMS and RMQ detectors which allows the calculation of Daily Vibration Exposure A(8) based on RMS and VDV simultaneously. All measurement results are stored in a large 8GB internal memory which allows continuous recording over long periods. The standard 2.0 USB interface allows fast data download and is also used for battery recharging.

For advanced users, the SV 100A offers frequency analysis in 1/1 or 1/3 octaves and time domain signal recording to wave format in accordance to ISO 2631-5 that is compatible with popular recalculation software.

The SV 100A is fully configurable with our Supervisor software. It can quickly and easily be setup for all the weighting filters required by ISO standards.



SV 100A Technical Specifications

| | | |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Standards | ISO 8041:2005; ISO 2631-1:1997; ISO 2631-2:2003; ISO 2631-5:2004; | |
| Meter Mode | aw (RMS WHOLE-BODY), awmax (RMS MAX WHOLE-BODY), VDV, MaxVDV, awv (VECTOR WHOLE-BODY), A(8) Daily Exposure, ELV Time (TIME LEFT TO LIMIT), EAV Time (TIME LEFT TO ACTION) | |
| Filters | MTVV, Max, Peak, Peak-Peak Wd, Wk, Wm, Wb (ISO 2631) and corresponding Band Limiting Filters according to ISO 8041:2005 Wf for motion sickness filter for measurements according to ISO 2631-1 (option) | |
| RMS & RMQ Detectors | Digital true RMS & RMQ detectors with Peak detection, resolution 0.1 dB | |
| Measurement Range | 0.01 m/s ² RMS ÷ 157 m/s ² PEAK | |
| Frequency Range | 0.1 Hz ÷ 180 Hz | |
| Data Logger ¹ | Time-history data including meter mode results and spectra | |
| Time-Domain Recording ¹ | Simultaneous x, y, z time-domain signal recording (optional) | |
| Analyser ¹ | 1/1 octave real-time analysis (optional) 1/3 octave real-time analysis (optional) | |
| Accelerometer | Built-in tri-axial MEMS based | |
| Memory | 8 GB | |
| Display | OLED 128 x 32 pixels | |
| Interfaces | USB 2.0 client, BT Wireless interface | |
| Power Supply | Ni-MH rechargeable cells operation time > 24 hours ² USB interface 500 mA HUB | |
| Environmental Conditions | Temperature | from -10 °C to 50 °C |
| | Humidity | up to 90 % RH, non-condensed |
| Dimensions | Ø 235mm x 12 mm | |
| Weight | Approx. 500 grams | |

¹function parallel to the meter mode

²depending on configuration and environmental conditions

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

What's inside the SV 100A kit



The standard SV100A kit includes 8 GB memory and USB cable for the communication with PC software (license for PC software is included). The license for Assistant application is also included. The SA 54 charger for recharging an inbuilt battery is provided. Each SV100A has its factory calibration certificate and 36-months warranty card. The kit is delivered in the SA 145 carrying case.

Supervisor Software



Supervisor software supports data download, instrument configuration and provides complete set of tools for determination of occupational vibration exposure from measurements in accordance to ISO 2631-1 standard. Measurement results are expressed in m/s^2 and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector. All information displayed within the panel window is directly printable to the report.

Assistant Application



Assistant is an application for devices running on Android and iOS platforms extending functionalities of SV 100A. The application uses the BT Wireless interface enabling current results to be previewed on a smartphone or tablet as well as controlling the measurement Start / Stop and Markers. The Assistant also signals an alarm when the vibration limits are exceeded. The unique feature of Assistant is functionality of sending the GPS position and vehicle speed to the SV 100A to create image of vibration on a map providing very powerful tools for identification of vibration sources.

Optional functions



ISO standards imply to be desirable to report (unweighted) **ONE-THIRD-OCTAVE BAND** root-mean-square acceleration magnitudes over the frequency range of the measurement system. Frequency analysis such as **1/3 octave** provides information on dominant frequencies and harmonics, which may help engineers to control vibrations and detect artifacts. It can be activated at any time, by ordering an activation code.



To meet the requirements of ISO 2631-5 the SV100A offers an option of recording the raw **TIME DOMAIN SIGNAL** to the WAV format. The mentioned standard describes the dose calculation from the time domain signal in case of multiple shocks. It can be activated at any time, by ordering an activation code.



Vibrations with frequencies below 0.5 Hz cause so called **MOTION SICKNESS**, primarily in the standing and sitting postures. This type of vibrations are typical for ships and other sea vessels. The most recognized symptoms of motion sickness are dizziness and vomiting. The SV 100A is capable to measure vibration frequencies from 0.1 Hz which makes it suitable for motion sickness measurements in accordance to ISO 2631-1. The low frequency vibrations are measured in vertical axis with Wf weighting filter. It can be activated at any time, by ordering an activation code.

Optional accessories



SA 38
Calibration
Adapter



SV 111
Vibration
Calibrator



SV111 Vibration Calibrator Technical Specifications

CALIBRATION SIGNAL PARAMETERS

| | | |
|----------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------|
| Vibration Accelerations (RMS in m/s ²) | 1 (at 15.92 Hz) 1 (at 636.6 Hz) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Velocities (RMS in mm/s) | 10 (at 15.92 Hz) 0.25 (at 636.6 Hz) | 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Displacement (RMS in µm) | 100 (at 15.92 Hz) 0.0625 (at 636.6 Hz) | 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Amplitude Error | Less than ± 3% | |
| Frequency Error | Less than ± 0,5% | |
| Transverse Vibration | Less than 10% of the main direction | |
| Harmonic Distortion | < 5 % (at 15.92 Hz) < 3 % (at 636.6 Hz) | < 3 % (at 79.58 Hz) < 3 % (at 159.2 Hz) |

GENERAL INFORMATION

| | | |
|-------------------------------------|-----------------------------------------------------|----------------------------------------------------|
| Maximum Weight of Calibrated Object | 1000 grams (at 15.92 Hz) 200 grams (at 159.2 Hz) | 300 grams (at 79.58 Hz) 200 grams (at 636.6 Hz) |
| Sensor Mounting | Thread M5 x 12 mm | |

WORKING CONDITIONS

| | |
|-------------------|----------------|
| Temperature Range | -10 °C ÷ 50 °C |
| Humidity Range | 25% ÷ 85% |

POWER SUPPLY

| | |
|---------------------------|----------------------------------------|
| Battery Type | Rechargeable 6 V / 12 Ah |
| Continuous Operating Time | Up to 20 hours (depending on usage) |
| Automatic Switch Off | From 5 to 60 minutes adjustable |
| Charging Time | Less than 10 hours |
| Power Supply for Charger | SA 54 (5V / 1A) or mini USB 500 mA HUB |

OVERALL WEIGHT AND DIMENSIONS

| | |
|------------|------------------------|
| Weight | 8.2 kg (incl. battery) |
| Dimensions | 395 x 270 x 194 mm |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

SV 111 Vibration Calibrator

SV111 is a vibration field calibrator designed in accordance to **ISO 8041** for in-situ checks of **WHOLE-BODY** and **HAND-ARM VIBRATION** meters.

Calibrator is suitable for all types of vibration transducers for **ACCELERATION, VELOCITY AND DISPLACEMENT** at 15.92 Hz; 79.6 Hz; 159.2 Hz and 636.6 Hz

The shaker can be loaded with maximum payload of **1 kg at 15.92 Hz** enabling calibration of a complete seat-pad or building vibration sensors.

The inbuilt **RECHARGEABLE** battery provides up to 20 hours of continuous operation.

The **OLED** colour graphical screen displays information on selected frequency and vibration level.

The **INBUILT REFERENCE TRANSDUCER** detects errors during calibration process and ensures calibration stability.

The calibrator is simple in use. It has three **PUSH-BUTTONS** for selection of frequency and amplitude and start/stop control.



*Sensors shown on photos are not included in the kit.

About

The SV111 vibration calibrator is designed for in-situ checks in accordance with the ISO 8041 standard. The device is intended for operation in the field to check that a vibration level meter is working correctly. The calibrator is based on a built-in tri-axial reference accelerometer and digitally controlled shaker. In accordance with ISO 8041 requirements the reference accelerometer will measure cross-axes / transverse vibrations to detect any interference to the calibration signal. Three LEDs will light up on the calibrator panel whenever a fault caused by transverse vibrations is detected. This unique feature ensures the stability of the calibration level & frequency at each test measurement.

The SV111 is designed to calibrate a variety of vibration meters at different frequencies from 16 Hz up to 640 Hz. Depending on the frequency selected, the user may choose the level of calibration from 1 m/s² to 10 m/s².

The shaker can be loaded with up to 1 kilogram mass. Any improper object fixing is automatically detected and indicated by LEDs on the control panel giving information about the axis that needs correcting.

A set of adapters is available for calibration checks on tri-axial sensors including a special adapter for Svantek whole-body sensors (seat-pads), which can be directly mounted onto the shaker. Other types of vibration transducers can be easily attached using a mounting stud, a mounting disc or adapter.

Optional accessories



SA105A Calibration Adapter to SV105A, SV105AF and SV107



SA155 Calibration Adapter to SV150 and SV151



SA 40 Calibration Adapter to SV3233A



SA 44 Calibration Adapter to SV50



SA154 Calibration Adapter to SV84



SV110 Technical Specifications

CALIBRATION SIGNAL PARAMETERS

| | |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Vibration Accelerations (RMS in m/s^2) | 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Velocities (RMS in mm/s) | 2, 4, 6, 8 10, 12, 14, 16, 18, 20 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Vibration Displacement (RMS in μm) | 4, 8, 12, 16, 20, 24, 28, 32, 36, 40 (at 79.58 Hz) 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 (at 159.2 Hz) |
| Amplitude Error | Less than $\pm 3\%$ |
| Frequency Error | Less than $\pm 0,5\%$ |
| Transverse Vibration | Less than 10% of the main direction |
| Harmonic Distortion | < 3 % (at 79.58 Hz) < 3 % (at 159.2 Hz) |

GENERAL INFORMATION

| | |
|-------------------------------------|----------------------------------------------------|
| Maximum Weight of Calibrated Object | 300 grams (at 79.58 Hz) 200 grams (at 159.2 Hz) |
| Sensor Mounting | Thread M5 x 6 mm |

WORKING CONDITIONS

| | |
|-------------------|---------------------------------------------------------------|
| Temperature Range | $-10\text{ }^{\circ}\text{C} \div 50\text{ }^{\circ}\text{C}$ |
| Humidity Range | $25\% \div 85\%$ |

POWER SUPPLY

| | |
|---------------------------|---------------------------------------------|
| Battery Type | Rechargeable 7.2 V / 2 Ah |
| Continuous Operating Time | Up to 12 hours (depending on usage) |
| Automatic Switch Off | From 5 to 60 minutes adjustable |
| Charging Time | 5 hours (with SA 54) or 10 hours (with USB) |
| Power Supply | SA 54 (5V / 1A) or USB 500 mA HUB |

OVERALL WEIGHT AND DIMENSIONS

| | |
|------------|------------------------|
| Weight | 1200 g (incl. battery) |
| Dimensions | 170 x 65 x 65 mm |

Our Company's policy is based upon continuous product development and innovation. Therefore, we reserve the right to change the specifications without any prior notice whatsoever.

SV 110 Vibration Calibrator

SV110 is hand-held vibration field calibrator designed in accordance to **ISO 8041** for in-situ checks of hand-arm vibration meters.

The calibrator operates on two frequencies **80 Hz and 160 Hz** enabling in-situ checks of hand-arm vibration meters as well as machine vibration meters.

Titanium shaking table and **POWERFUL SHAKER** enable calibration of sensors with mass up to 300 g at 80 Hz.

The inbuilt **RECHARGEABLE** battery typically provides enough power for 12 hours of continuous operation.

*Sensors shown on photos are not included in the kit.



Two conveniently located **LED** diodes show the current **STATUS DURING** the **CALIBRATION PROCESS**.

The calibrator aluminum housing is **ROBUST** and additionally protected with rubber covers on both ends.

The **LEATHER COVER** gives comfort of a secure grip to the user.

The calibrator is simple in use. It has three **PUSH-BUTTONS** for selection of frequency & amplitude level and start/stop control.

The **OLED** graphical screen displays information on selected frequency and vibration level.

About

The SV110 is a hand-held vibration calibrator designed for on-site checks of hand-arm vibration meters in accordance to ISO 8041 both at 80 Hz and 160 Hz. The menu is simply operated by three push-buttons and a small OLED display. Depending on a chosen frequency, a user may select a calibration level from 1 m/s² to 10 m/s².

The SV110 is a perfect solution for calibration checks of hand-arm vibration meters including Svantek's SV103 and SV106. Following the requirements of ISO 8041, the calibrator's built-in tri-axial reference accelerometer measures the cross-axis (transverse) vibrations to detect any interference to the calibration signal. Faults caused by transverse vibrations

are indicated by LED on the calibrator's housing. This unique solution ensures stability of both calibration level & frequency. A small size of the SV110 makes it very useful for calibration checks of various types of machine vibration accelerometers. The calibrator menu provides selection between both metric systems 'g' and 'm/s²' as well as choice of frequency unit between Hertz (Hz) and Cycle Per Minute (CPM).

Accelerometers are conveniently attached using a mounting stud, magnet or a dedicated adapter.

The calibrator has a built-in rechargeable batteries that typically power it for 12 hours of continuous operation.

Optional accessories



SA105A Calibration Adapter to SV105A, SV105AF and SV107 Accelerometers



SA155 Calibration Adapter to SV150 and SV151 Accelerometers



SA 40 Calibration Adapter to SV3233A Accelerometer



SA 44 Calibration Adapter to SV50 Accelerometer



Supervisor Software

Supervisor is a software package for health and safety specialists. The package supports all Svantek instruments for the health and safety market.

The Supervisor is designed to meet the needs of different users. In the case of simple applications that only require the analysis of the main results such as LAeq, LAFmax and Lcpeak, the program offers quick previews and reporting without the necessity of opening data files. More advanced applications are handled within sessions where the user can choose the type of analysis to be performed. Those

who draw up noise or vibration reports on a daily basis will appreciate the report templates, which once created can be applied to different sets of measurement files.

Each instrument that is connected to Supervisor is remembered together with information such as the uploaded settings, the firmware version, as well as the calibration validity date and instrument clock time. When data is downloaded, they are automatically categorised by measurement time and assigned to the instrument's serial number.

Supervisor Software Data Management & Reporting

Hand-Arm Vibration Exposure Calculation in accordance with ISO 5349-2

ISO 5349-2 gives practical guidelines in accordance with ISO 5349-1 of how to take hand transmitted vibration measurements at the workplace. These kinds of measurements are possible with the SV 106 human vibration analyser or SV 103 hand-arm vibration dosimeter. The data downloaded into the Supervisor database are assigned either to a particular user or to a task while all calculations are performed automatically. The measurements are recorded in m/s^2 and are directly comparable to the limits laid down by European Directive 2002/44/EC. It is also possible to convert these units into Points, which are widely used within the health & safety sector. All the information displayed within the panel window can be printed in the report.

| User | Exposure duration | RMS (X) | RMS (Y) | RMS (Z) | ABQ | Partial exposure | Time to reach ELV | Time to reach ELV |
|--------------------------|-------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|-------------------|
| | Hours | m/s^2 | m/s^2 | m/s^2 | m/s^2 | $\text{m/s}^2 \text{ A(8)}$ | Hours | Hours |
| Drill | 00:00 | 5.389 | 10.632 | 5.499 | 12.638 | 0.364 | 01:00 | 04:02 |
| File name: DRILL1 (04-3) | | 5.662 | 12.274 | 5.009 | 14.757 | 0.426 | 00:13 | 00:58 |
| File name: DRILL2 (04-3) | | 5.630 | 9.385 | 5.236 | 12.134 | 0.358 | 00:20 | 01:21 |
| File name: DRILL3 (04-3) | | 4.881 | 7.862 | 5.272 | 10.647 | 0.307 | 00:26 | 01:46 |
| Total duration: | 00:00 | | | | | | | |
| Daily exposure | | | | | | | | |
| User | | | | | | m/s^2 | | |
| Zaychu | | | | | | 0.364 | | |

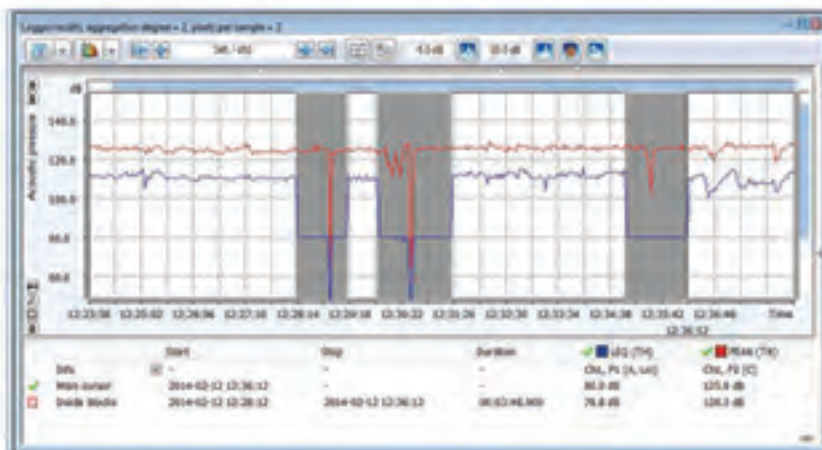
Whole-Body Vibration Exposure Calculation in accordance with ISO 2631-1

The ISO 2631-1 standard defines the general methodology to assess whole-body vibration exposure. These measurements can be performed with the SV 106 human vibration analyser or the SV 100A whole-body vibration dosimeter. The measurements downloaded into the Supervisor database are assigned either to a particular user or to a task while all calculations are performed automatically. The measurements are recorded in m/s^2 and are directly comparable to the limits laid down by European Directive 2002/44/EC.

It is also possible to convert these units into Points, which are widely used within the health & safety sector. By clicking on Mode, you can switch to calculations based on VDV which is often necessary when the vibration is characterized as impulsive.

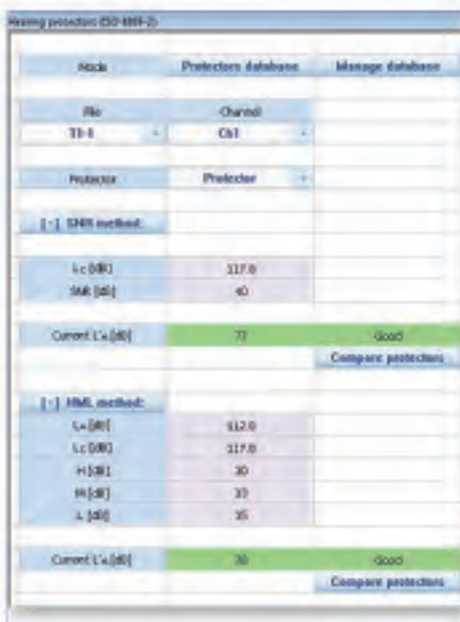
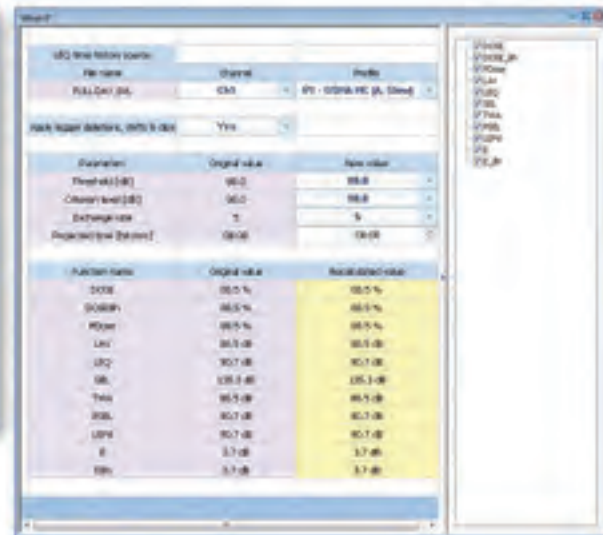
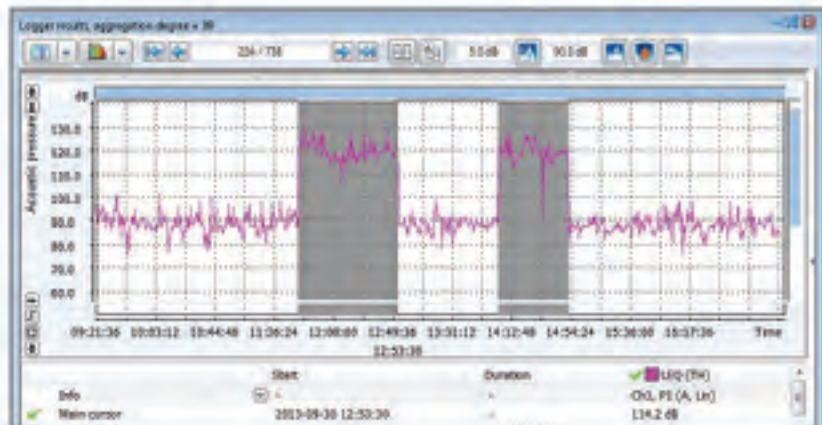
| User | Exposure duration | RMS (X) | RMS (Y) | RMS (Z) | Partial exposure (X) | Partial exposure (Y) | Partial exposure (Z) | Time to reach ELV | Time to reach ELV |
|-----------------------------|-------------------|----------------|----------------|----------------|-----------------------------|-----------------------------|-----------------------------|-------------------|-------------------|
| | Hours | m/s^2 | m/s^2 | m/s^2 | $\text{m/s}^2 \text{ A(8)}$ | $\text{m/s}^2 \text{ A(8)}$ | $\text{m/s}^2 \text{ A(8)}$ | Hours | Hours |
| Car | 04:00 | 0.879 | 0.855 | 0.237 | 0.079 | 0.064 | 0.167 | >24:00 | >24:00 |
| Total duration: | 04:00 | | | | | | | | |
| Total exposure (X) | | | | | Total exposure (Y) | Total exposure (Z) | | | |
| $\text{m/s}^2 \text{ A(8)}$ | | | | | $\text{m/s}^2 \text{ A(8)}$ | $\text{m/s}^2 \text{ A(8)}$ | | | |
| 0.079 | | | | | 0.064 | 0.167 | | | |
| Daily exposure | | | | | | | | | |
| User | | | | | | m/s^2 | | | |
| Zaychu | | | | | | 0.367 | | | |

Supervisor Software Data Management & Reporting



Simulation of changes of noise source emission

The Supervisor software gives tools to simulate hypothetical situations in which the noise differs from that which was measured. When selecting a data block it is possible to shift the data up or down for any given dB value. It is also possible to simulate a situation where noise is equal to a given dB level or completely removed from time history. The altered data is recalculated automatically and both the original and recalculated results are shown so as to answer the question "What if".



Hearing protection selection in accordance with ISO 4869-2

Workers should wear hearing protectors if the noise or sound level at the workplace exceeds 85 decibels. The selection of hearing protectors depends on a noise level in the working environment. Therefore the selection of suitable hearing protector should be based on noise measurement.

Each hearing protector has attenuation characteristics expressed in units of three methods:

SNR

Single Number Rating.

HML

High, Medium and Low frequency method, using A-weighted and C-weighted sound measurements in the calculation

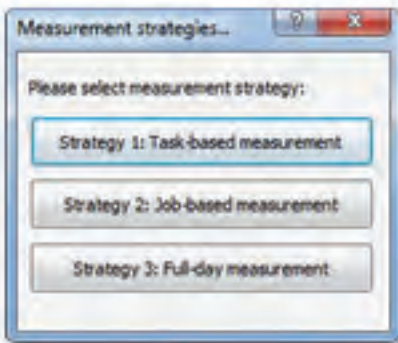
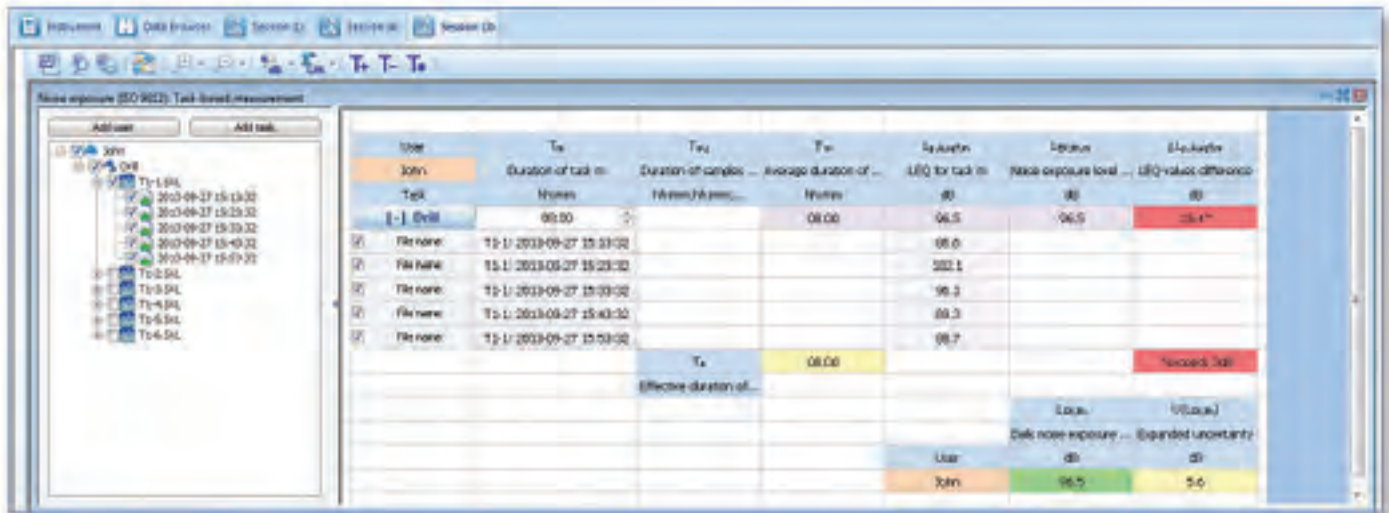
OCTAVES

the most accurate method requiring measurement
in 1/1 octave bands

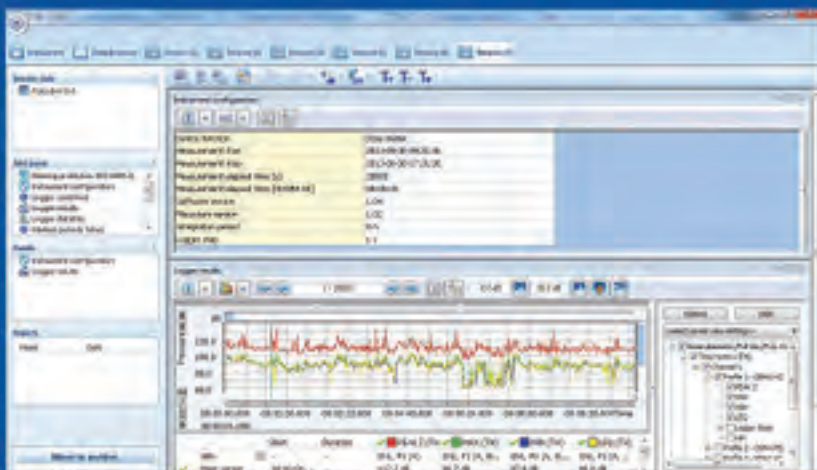
The Supervisor supports all three methods allowing users to build up the hearing protectors data base. The calculation is done automatically with selection of data files containing noise results required by selected method.

Supervisor Software Data Management & Reporting

Noise exposure recalculations in accordance with ISO 9612



The Supervisor software provides complete tool for determination of occupational noise exposure from noise level measurements. The Supervisor provides automatic calculation of all required measurement results and uncertainties in accordance to three measurement strategies described in ISO 9612: task-based, job-based and full-day.



Reporting: What You See is What You Get!

Supervisor creates reports in a very fast and easy way. The user selects a file and opens it by double click. The measurements are automatically grouped into context panels which can be opened and closed with a single click. The panels can be arranged with the drag & drop. Then you only need to click on the MS Word™ icon to print a report. The report layout can be saved at any time as a template and used for other files.



| | |
|-----------------------|----------|
| 81% 100% 14:19 | |
| P1 P2 P3 | |
| DOSE (CR: 80 dB) | 55.5 % |
| Time to full DOSE | 6m |
| L _{Aeq} | 95.4 dB |
| L _{EX} 8h | 77.4 dB |
| L _{Cpeak} | 136.6 dB |
| Peaks counter >115 dB | 73 |
| L _{AS} | 60.8 dB |
| No motion period | 5m 13s |
| SV 104 DOSE | |

Assistant Application for Smartphones



The Assistant application supports Svantek noise and vibration dosimeters equipped with the **Bluetooth®** interface.

Application works both on **Android** and **iOS** platforms is easy to install and intuitive to operate.

The user interface allows to preview results in the form of **time-history plots** as well as numerical values.



The application **controls the exposure limits** in accordance to European Noise & Vibration Directives.

Measurement results in accordance to **ISO** standards for noise & vibration measurements are available in a form of **reports** that can be send **via e-mail**.

Assistant supports **markers** added to the time-history of measurement results for an easy identification of noise or vibration events.

Control the measurement using your mobile phone!

Assistant is an Android application for devices running on Android or iOS platforms dedicated for Svantek dosimeters with a Bluetooth® interface.

The application enables the preview of current results as well as the control of the measurement Start / Stop and Markers. The Assistant also signals an alarm when the vibration limits are exceeded.

The Assistant supports multiple noise and vibration level dosimeters simultaneously. The measurement results can be sent in the form of a report via e-mail. The unique feature of Assistant is functionality of sending the GPS position and vehicle speed to the vibration meters to create image of vibration on a map providing very powerful tools for identification of vibration sources.



Accredited calibration services

- Sound level meters to IEC 61672
- Acoustic calibrators to IEC 60942
- Band-pass filters to IEC 61260
- Noise dosimeters (noise exposure meters) to IEC 61252
- Vibration level meters
- Human vibration level meters to ISO 8041
- Vibration calibrators
- Vibration transducers to ISO 16063-21



We guarantee:

- Qualified & fully dedicated staff
- Highest level of competence
- State-of-the-art calibration equipment
- Patterns and equipment in accordance to International System of Units (SI)
- Integrity, impartiality and confidentiality
- Competitive pricing
- Short lead times
- Direct contact with repair service department



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