

# SVAN 977C

Sound & Vibration  
Level Meter and Analyser



# SVAN 977C Sound & Vibration Level Meter

SVAN 977C 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 16 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 977C 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 Building Acoustics Assistant and 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.

**RT 60** reverberation time measurement in 1/1 or 1/3-octave bands in accordance to ISO 3382 supported by the Building Acoustics Assistant mobile application (optional).



## About SVAN 977C

The SVAN 977C is a Class 1 Sound and Vibration meter designed for occupational and environmental measurement applications. The meter is a successor of SVAN 977A offering new 1/2" microphone MK255 providing designed for acoustical measurements in research and development and also for industrial use. It is designed and very carefully constructed to ensure excellent long-time stability of the electroacoustical parameters.

One unique feature of the SVAN 977C 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 smartphone applications like Building Acoustics App and SvanMobile, extends measurement capabilities with all the features offered by smartphones including text/voice comments, photo, video, GPS position etc.



# Software for SVAN 977C



**SvanPC++** is a PC software supporting functions such as measurement data downloading from instruments to PC, measurement setups creation, 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 977C can be used for calculation of all required measurement results and uncertainties in accordance to measurement strategies described in ISO 9612.

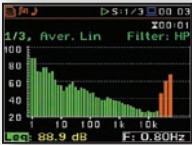
**SvanMobile** is an application for Android devices that uses the Bluetooth® connection to control the SVAN 977C. It allows the user to trigger measurements, edit settings, rename files and view the results remotely. Anyone who makes measurements in the environment will appreciate the ability of SvanMobile 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.

One big advantage of SVANTEK instruments is their ability to make building acoustics measurements. Their high accuracy along with millisecond spectra logging allows users to perform all the measurements necessary to obtain facade, airborne or impact sound insulation results. **The Building Acoustics Assistant** smartphone application guides the user through the sound insulation measurement procedure in accordance with ISO 16283.

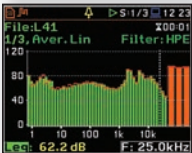
## Optional functions



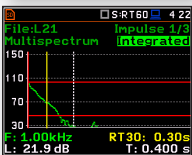
**TIME DOMAIN SIGNAL RECORDING** means recording the raw signal samples with defined frequency up to 48 kHz. Analysis of the raw signal is used whenever frequency analysis is not sufficient. Post-processing of high quality wave files (48 kHz, 24 bit) such as calculation of tonality is available in SvanPC++ program. Time domain 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 977C 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.

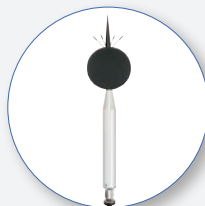


**RT60 ANALYSIS** provides reverberation time calculation for 1/1 octave bands (from 63 Hz to 8 kHz) or 1/3-octave bands (from 50 Hz to 10 kHz) and three total RMS levels (A, C and Z weighted). Whole measurement process and calculations implemented in SV 973 fulfil the ISO 3382 standard. It can be activated at any time by ordering the activation code.

## Optional accessories to SVAN 977C



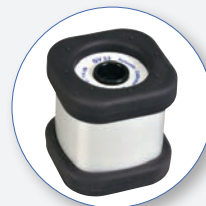
SC 26  
Extension Cable  
for Preamplifier



SA 277C  
Microphone  
Outdoor  
Protection Kit



SM 277 PRO  
Outdoor  
Monitoring  
Case



SV 36  
Class 1 Acoustic  
Calibrator  
94 dB / 114 dB  
at 1 kHz



SV MK202E  
Ultrasound  
Microphone up to  
40 kHz band



## What's inside the SVAN 977C kit?

The kit consists of SVAN 977C Class 1 sound & vibration level meter with a detachable preamplifier SV 12L and high quality MK 255 microphone. The list of accessories includes: SA 143 carrying case, SA 22 windscreen, 16 GB microSD card, four AA batteries, USB cable, and CD with user manual. Each SVAN 977C has its factory calibration certificate and 36 months warranty card.

## SVAN 977C 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, LF, U, AU
Time Constants	Slow, Fast, Impulse
Microphone	Microtech Gefell MK 255, 50 mV/Pa, prepolarised 1/2" condenser microphone
Preamplifier	SV 12L detachable (TNC)
Linear Operating Range	23 dBA RMS ÷ 140 dBA Peak (in accordance to IEC 61672)
Total Dynamic Measurement Range	16 dBA RMS ÷ 140 dBA Peak (typical from noise floor to the maximum level)
Internal Noise Level	Less than 16 dBA RMS
Dynamic Range	>110 dB
Frequency Range	3 Hz ÷ 20 kHz with Microtech Gefell MK 255
Meter Mode Results	Elapsed time, Lxy, Leqx (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), LR (ROLLING LEQ), OvI (OVERLOAD), Lxyc (SEL), LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5
Measurement Profiles	Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y)
Analyser <sup>1</sup> (optional)	1/1 octave or optional 1/3 octave real-time analysis, up to 40.0 kHz band meeting Class 1: IEC 61260-1 FFT analysis 1600 lines, up to 40.0 kHz band (optional) RPM rotation speed measurement parallel to the vibration measurement (optional) RT60 reverberation time measurement (optional)
Statistics	L <sub>n</sub> (L <sub>1</sub> -L <sub>99</sub> ), complete histogram in meter mode and 1/1 or 1/3 octave analysis
Data Logger <sup>1</sup>	Time-history logging of summary results, spectra with adjustable double logging steps down to 2 ms
Audio Recording <sup>1</sup> (optional)	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 <sup>1</sup> (optional)	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: IEC 61260-1 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 <sup>1</sup>	Continuous or triggered time-domain signal recording to WAV format (optional)

### General information

Input	IEPE with TNC connector
Memory	MicroSD card 16 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) <sup>2</sup>
	Four rechargeable AA batteries operation time > 16 h (4.8 V / 2.6 Ah) <sup>2</sup> (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	343 x 79 x 39 mm (with microphone and preamplifier)
Weight	Approx. 0.6 kg with batteries

<sup>1</sup>works together with the meter mode

<sup>2</sup>dependent on instrument operation mode

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