

# SVAN 959 Sound & Vibration Analyser

The SVAN 959 is all digital, Type 1 sound & vibration (option) level meter along with analyser. Instrument is intended to general acoustic and vibration measurements, environmental monitoring, occupational health and safety monitoring.

Three acoustic or vibration (option) profiles allow parallel measurements with independently defined filters and RMS detector time constants. Each profile provides significant number of results (like for sound  $L_{eq}$ ,  $L_{Max}$ ,  $L_{Min}$ ,  $L_{Peak}$ ,  $Spl$ , SEL or RMS, PEAK, VDV, MTVV in case of vibration measurements). Advanced time history logging for each profile provides complete information about measured signal in non-volatile 32 MB internal memory or external USB Memory Stick and can be easily downloaded to any PC using USB interface and SvanPC+ software.

All required weighting filters (e.g.: A, C,  $W_k$ ,  $W_o$ ,  $W_f$ ) including the latest ISO 2631-1&2 standard are available with this instrument. RMQ detector enables direct measurement of the Vibration Dose Value (VDV). Using computational power of its digital signal processor the SVAN 959 instrument can, simultaneously to the meter mode, perform real time 1/1 or 1/3 octave analysis including statistical calculations and FFT analysis. Following functions are also available as an option: acoustic loudness measurements, tonality measurements,

reverberation time measurements and user programmable second order band pass filters. The time history logging of 1/1 octave, 1/3 octave and FFT analysis is provided. The time domain signal recording on the external USB memory stick is also available as an option. Built-in sophisticated signal generator (option) enables to perform advanced measurement techniques like MLS, TDS etc.

Fast USB 1.1 interface (12 MHz) creates real time link for the PC "front-end" application of the SVAN 959 instrument. Instrument can be remotely controlled by PC using the RS 232 interface (option) or IrDA interface (option). Measurement results can be downloaded to PC by these interfaces.

Instrument is powered from four AA standard or rechargeable NiMH batteries (separate charger is required). The powering of the instrument from the External DC power source or USB interface is also provided. Robust and light weight design accomplishes the exceptional features of this new generation instrument.

## FEATURES

- Type 1 IEC 61672:2002 sound level measurements
- General vibration measurements (acceleration, velocity and displacement) and HVM meeting ISO 8041:2005 standard
- Three parallel independent profiles
- 1/1 and 1/3 octave real time analysis
- FFT real time analysis (1920 lines in up to 22.4 kHz band)
- Pure tone detection (option)
- Acoustic loudness measurements (option)
- Reverberation Time measurements (option)
- Advanced Data Logger including spectra's logging on the USB Memory Stick provides almost unlimited logging capacity
- Time domain signal recording (option)
- Advanced trigger and alarm functions
- USB 1.1 Host & Client interface (real time PC "front end" application supported)
- RS 232 and IrDA interfaces (options)
- Built-in signal generator (option)
- Integration time programmable up to 24 h
- Power supply by four AA rechargeable NiMH or standard batteries
- Hand held, light weight and robust case
- Easy in use



# TECHNICAL SPECIFICATIONS

## SOUND LEVEL METER / ANALYSER

Standards	Type 1: IEC 61672-1:2002
Meter mode	SPL, $L_{eq}$ , SEL, $L_{den}$ , $L_{tm3}$ , $L_{tm5}$ , Statistics - $L_n$ ( $L_1$ - $L_{99}$ ), $L_{Max}$ , $L_{Min}$ , $L_{Peak}$
Analyser	Simultaneous measurement in three profiles with independent set of filters and detector time constants
	1/1 octave <sup>1</sup> real time analysis
	1/3 octave <sup>1</sup> real time analysis
	FFT <sup>1</sup> real time analysis (1920 lines, up to 22.4 kHz band)
	Loudness <sup>1</sup> based on ISO 532B standard and Zwicker model (option)
	Pure tone detection based on FFT analysis (Tonality <sup>1</sup> option)
Weighting Filters	Reverberation Time analysis in 1/3 octave bands (RT 60 option)
	User programmable second order band pass filters <sup>1</sup> (option)
	and more...
	A, C and Z
	RMS Detector
Microphone	GRAS 40AE, 50 mV/Pa, prepolarised 1/2" condenser microphone with SV 12L IEPE preamplifier
Measurement Range	20 dBA RMS ÷ 140 dBA Peak (with 5 dB margin from noise level)
Internal Noise Level	less than 15 dBA RMS
Frequency Range	3.15 Hz ÷ 20 kHz, with GRAS 40AE microphone

## VIBRATION LEVEL METER / ANALYSER (Option)

Standards	ISO 8041:2005 and ISO 10816-1	
Meter mode	RMS, VDV, MTVV or MAX, Peak, Peak-Peak	
Analyser	Simultaneous measurement in three profiles with independent set of filters and detector time constants	
	1/1 octave <sup>1</sup> real time analysis	
	1/3 octave <sup>1</sup> real time analysis	
	FFT <sup>1</sup> real time analysis (1920 lines, up to 22.4 kHz band)	
	RPM <sup>1</sup> rotation speed measurement parallel to the vibration measurement (option)	
	Advanced enveloping option dedicated for bearing diagnostics (option)	
Filters	User programmable second order band pass filters <sup>1</sup> (option)	
	and more...	
	RMS & RMQ Detectors	$W_k$ , $W_c$ , $W_d$ , $W_r$ , $W_h$ , $W_m$ , HP1, HP3, HP10, Vel1, Vel3, Vel10, VelMF, Dil1, Dil3, Dil10, KB
	Accelerometer (option)	Digital True RMS & RMQ detectors with Peak detection, resolution 0.1 dB, Time Constants: from 100 ms to 10 s
	Measurement Range	Dytran 3185D general purpose accelerometer with 100 mV/g sensitivity
Frequency Range	0.003 ms <sup>-2</sup> RMS ÷ 500 ms <sup>-2</sup> Peak, with Dytran 3185D accelerometer 2 Hz ÷ 10 kHz, with Dytran 3185D accelerometer	

## BASIC DATA

Input	IEPE type with TEDS or Direct (TNC connector)	
Dynamic Range	110 dB	
Frequency Range	0.5 Hz ÷ 20 kHz, sampling rate 48 kHz	
Data Logger <sup>1</sup>	Time History logging to internal memory or USB Memory Stick Time domain signal recording on USB Memory Stick (option)	
Signal generator	Sine, Sweep, White noise, Pink noise etc. (option)	
Display	LCD 128 x 64 pixels plus icons with backlighting	
Memory	32 MB non-volatile flash type, external USB Memory Stick	
Interfaces	USB 1.1 Client, USB 1.1 Host, RS 232 (with SV 55 option), IrDA (option) External I/O - AC output (1 V Peak) or Digital Input/Output (Trigger - Pulse)	
Power Supply	Four NiMH rechargeable batteries (option)	
	Four AA batteries (alkaline)	operation time > 16 h (4.8 V / 2.6 Ah) <sup>2</sup>
	SA 17A external battery pack	operation time > 12 h (6.0 V / 1.6 Ah) <sup>2</sup>
	External power supply	operation time > 24 h (option) <sup>2</sup>
Environmental Conditions	USB interface	6 V/500 mA DC ÷ 15 V/ 250 mA DC
	Temperature	500 mA HUB
	Humidity	from -10 °C to 50 °C up to 90 % RH, non-condensed
Dimensions	338 x 82 x 42 mm (with microphone and preamplifier)	
Weight	Approx. 0.6 kg with batteries	

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

<sup>2</sup>with USB 1.1 Host function not active and backlight off

Continuous product development and innovation are the policy of our company. Therefore, we reserve the right to change the specifications without prior notice.

DISTRIBUTOR:



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