

FACTORY CALIBRATION DATA OF THE SVAN971 No. 40305

with preamplifier SVANTEK type SV18 No. 41651 and with microphone ACO type 7052E No. 56663

1. CALIBRATION* (acoustical)

LEVEL METER function; Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: 114.02 dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	114.02	114.04	0.02
A	114.02	114.04	0.02
C	114.02	114.04	0.02

Calibration measured with the microphone ACO type 7052E No. 56663. Calibration factor: 1.47 dB.

3. LINEARITY TEST* (electrical)

LEVEL METER function; Range: Low; Characteristic: A; $f_{ref} = 31.5$ Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: Low; Characteristic: A; $f_{ref} = 1000$ Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.0

LEVEL METER function; Range: Low; Characteristic: A; $f_{ref} = 8000$ Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.0	0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; $f_{ref} = 31.5$ Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.0	-0.0	-0.0	-0.0	0.0	0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; $f_{ref} = 1000$ Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; $f_{ref} = 8000$ Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.0	0.0	-0.0	-0.0

1/3 OCTAVE (1kHz); Range: Low; $f_{ref} = 1000$ Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	-0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.0	-0.0

4. TONE BURST RESPONSE*

LEVEL METER function; Characteristic: A; $f_{ref} = 4000$ Hz; Burst duration: 2s

Range: Low; Steady level nominal result = 120dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	120.0	120.0	119.1	117.5	115.2	111.7	108.9	106.0	102.0	99.0	96.0	92.9
		Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.1	-0.1
	Slow	Indication [dB]	118.0	115.9	112.5	109.7	106.8	102.9	99.9	96.9	92.9	-	-	-
		Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	120.0	117.0	113.1	110.0	107.0	103.1	100.0	97.0	93.0	90.0	87.0	83.9
		Error [dB]	0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.1	-0.1

Range: Low; Steady level nominal result = 60dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5
MAX	Fast	Indication [dB]	60.0	59.9	59.0	57.4	55.2	51.7	48.9	45.9	42.0	39.0	36.0
		Error [dB]	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.1	0.0	-0.0	-0.1	-0.1
	Slow	Indication [dB]	58.0	55.9	52.5	49.7	46.8	42.9	39.9	36.9	32.9	-	-
		Error [dB]	-0.1	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-
SEL	-	Indication [dB]	60.0	57.0	53.0	50.0	47.0	43.0	40.0	37.0	33.0	30.0	27.1
		Error [dB]	0.0	-0.0	0.0	-0.0	-0.0	0.0	0.0	-0.0	0.0	-0.0	0.1

Range: Low; Steady level nominal result = 35dB

Result	Detector	Duration [ms]	1000	500	200
MAX	Fast	Indication [dB]	35.0	34.9	34.0
		Error [dB]	0.0	0.0	0.0
	Slow	Indication [dB]	32.9	30.8	27.6
		Error [dB]	-0.1	-0.1	0.0
SEL	-	Indication [dB]	35.0	32.0	28.1
		Error [dB]	0.0	0.0	0.1

Range: High; Steady level nominal result = 134dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	134.0	134.0	133.1	131.4	129.2	125.7	122.9	120.0	116.0	113.0	109.9	106.9
		Error [dB]	-0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.1	-0.1	-0.1
	Slow	Indication [dB]	132.0	129.9	126.5	123.7	120.8	116.9	113.9	110.9	106.9	-	-	-
		Error [dB]	-0.1	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	134.0	131.0	127.0	124.0	121.0	117.0	114.0	111.0	107.0	104.0	100.9	97.9
		Error [dB]	0.0	-0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.1	-0.1	-0.1

Range: High; Steady level nominal result = 54dB

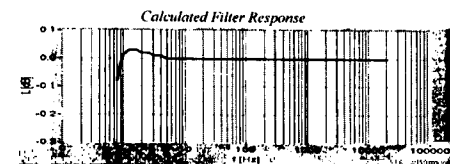
Result	Detector	Duration [ms]	1000	500	200	100	50
MAX	Fast	Indication [dB]	53.9	53.8	52.9	51.3	49.1
		Error [dB]	-0.1	-0.0	-0.1	-0.1	-0.1
	Slow	Indication [dB]	51.9	49.8	46.4	43.6	40.7
		Error [dB]	-0.1	-0.1	-0.2	-0.2	-0.1
SEL	-	Indication [dB]	53.9	50.9	46.9	43.9	40.9
		Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1

Range: High; Steady level nominal result = 45dB

Result	Detector	Duration [ms]	1000	500	200
MAX	Fast	Indication [dB]	45.0	44.9	44.0
		Error [dB]	0.0	0.0	0.0
	Slow	Indication [dB]	42.9	40.8	37.7
		Error [dB]	-0.1	-0.0	0.1
SEL	-	Indication [dB]	44.9	42.0	38.0
		Error [dB]	0.0	0.0	0.1

5. FREQUENCY RESPONSE* (electrical)

LEVEL METER function; Characteristic: Z; Range: Low; Input signal = 120 dB;



Measured Filter Response with Preamplifier SV18 (f-frequency, L-level)

f [Hz]	L [dB]	f [Hz]	L [dB]	f [Hz]	L [dB]
10	-0.1	63	0.0	4000	0.0
12.5	0.0	125	0.0	8000	-0.0
16	0.0	250	0.0	16000	-0.0
20	0.0	500	0.0	20000	-0.0
25	0.0	1000	0.0		
31.5	0.0	2000	0.0		

All frequencies are nominal center values for the 1/3 octave bands

6. INTERNAL NOISE LEVEL* (electrical - compensated)

LEVEL METER function; Range: Low; (Back-light - off); Calibration factor: 0dB

Characteristic	Z	A	C
Level [dB]	≤20	≤12	≤12

* measured with preamplifier SVANTEK type SV18 No. 41651.

7. INTERNAL NOISE LEVEL (acoustical - compensated)

LEVEL METER function; Characteristic: A; (Backlight - off)

Range	Low	High
Indication [dB]	≤15	21.2

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 73421

ENVIRONMENTAL CONDITIONS

Temperature	Relative humidity	Ambient pressure
26 °C	50%	994 hPa

TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 401	100	Signal generator
2.	SVANTEK	SVAN 912A	15900	Sound & Vibration Analyser
3.	KEITHLEY	2000	0910165	Digital multimeter
4.	SVANTEK	SV30A	24563	Acoustic calibrator
5.	SVANTEK	ST02	-	Microphone equivalent electrical impedance (18pF)

CONFORMITY & TEST DECLARATION

1. Herewith Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpass them.
2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the GUM (Central Office of Measures) reference standard - sound level calibrator type 4231 No 2292773.
3. The vibrational calibration was performed using the Back-to-Back Comparison method and is traceable to the GUM (Central Office of Measures) reference standard - accelerometer type 8305 No 1435233.
4. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
5. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Calibration specialist: Wacław Skarżycki

Test date: 2014-07-10