

FACTORY CALIBRATION DATA OF THE G7 nr.: 12803

SOUND LEVEL METER

1. CALIBRATION (electrical)

LEVEL METER function; Characteristic: A; $f_{sin}=1\text{kHz}$; Input signal =100 dB;

Range	Low (120dB)	High (137dB)
Indication [dB]	100.0	100.0
Error [dB]	0.0	0.0

2. CALIBRATION* (acoustical)

LEVEL METER function; Range: High; Reference frequency: 1000Hz;

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	113.8	114.0	0.0
A	113.8	114.0	0.0
C	113.8	114.0	0.0

Calibration measured with the microphone ACO type 7052H No. 36693. Calibration factor: 7.3

3. LINEARITY TEST* (electrical)

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

Nominal result LEQ [dB]	24.0	25.0	26.0	27.0	28.0	29.0	30.0	40.0	50.0	60.0	70.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal result LEQ [dB]	75.0	76.0	77.0	78.0	79.0	80.0					
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0					

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

Nominal result LEQ [dB]	24.0	25.0	26.0	27.0	28.0	29.0	30.0	40.0	50.0	60.0	70.0
Error [dB]	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal result LEQ [dB]	80.0	90.0	100.0	110.0	115.0	116.0	117.0	118.0	119.0	120.0	
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

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

Nominal result LEQ [dB]	24.0	25.0	26.0	27.0	28.0	29.0	30.0	40.0	50.0	60.0	70.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Nominal result LEQ [dB]	80.0	90.0	100.0	110.0	114.0	115.0	116.0	117.0	118.0	119.0	
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

LEVEL METER function; Range: Low; Characteristic: A; $f_{sin}=12500\text{ Hz}$

Nominal result LEQ [dB]	24.0	25.0	26.0	27.0	28.0	29.0	30.0	40.0	50.0	60.0	70.0
Error [dB]	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
Nominal result LEQ [dB]	80.0	90.0	100.0	110.0	111.0	112.0	113.0	114.0	115.0		
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

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

Nominal result LEQ [dB]	34.0	35.0	36.0	37.0	38.0	39.0	40.0	50.0	60.0	70.0	80.0
Error [dB]	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal result LEQ [dB]	90.0	92.0	93.0	94.0	95.0	96.0	97.0				
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

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

Nominal result LEQ [dB]	34.0	35.0	36.0	37.0	38.0	39.0	40.0	50.0	60.0	70.0	80.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0
Nominal result LEQ [dB]	90.0	100.0	110.0	120.0	130.0	132.0	133.0	134.0	135.0	136.0	137.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Nominal result LEQ [dB]	34.0	35.0	36.0	37.0	38.0	39.0	40.0	50.0	60.0	70.0	80.0
Error [dB]	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal result LEQ [dB]	90.0	100.0	110.0	120.0	130.0	131.0	132.0	133.0	134.0	135.0	136.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: High; Characteristic: A; $f_{sin} = 12500$ Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	37.0	38.0	39.0	40.0	50.0	60.0	70.0	80.0
Error [dB]	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nominal result LEQ [dB]	90.0	100.0	110.0	120.0	127.0	128.0	129.0	130.0	131.0	132.0	
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

4. TONE BURST RESPONSE*

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

Range: Low; Steady level nominal result = 117dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	117.0	116.9	116.0	114.4	112.1	108.6	105.8	102.9	98.9	95.9	92.9	89.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	115.0	112.9	109.5	106.7	103.8	99.9	96.9	93.9	89.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	116.9	113.9	110.0	106.9	103.9	100.0	96.9	93.9	89.9	86.9	83.8	80.8
		Error [dB]	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2

Range: Low; Steady level nominal result = 97dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	97.0	96.9	96.0	94.4	92.1	88.6	85.8	82.9	78.9	75.9	72.9	69.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	95.0	92.9	89.5	86.7	83.8	79.9	76.9	73.9	69.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	97.0	93.9	90.0	87.0	83.9	80.0	76.9	73.9	69.9	66.9	63.9	60.8
		Error [dB]	0.0	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2

Range: Low; Steady level nominal result = 77dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	77.0	76.9	76.0	74.4	72.1	68.6	65.8	62.9	58.9	55.9	52.9	49.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	75.0	72.9	69.5	66.7	63.8	59.9	56.9	53.9	49.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	76.9	73.9	70.0	66.9	63.9	60.0	56.9	53.9	49.9	46.9	43.8	40.8
		Error [dB]	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2

Range: Low; Steady level nominal result = 57dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1
MAX	Fast	Indication [dB]	57.0	57.0	56.1	54.4	52.2	48.7	45.9	42.9	39.0	36.0
		Error [dB]	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Slow	Indication [dB]	55.0	53.0	49.6	46.8	43.9	40.0	37.0	34.0	30.0	-
		Error [dB]	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
SEL	-	Indication [dB]	57.0	54.0	50.0	47.0	44.0	40.0	37.0	34.0	30.0	27.0
		Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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]	33.0	30.9	27.6
		Error [dB]	0.0	0.0	0.0
SEL	-	Indication [dB]	35.0	32.0	28.0
		Error [dB]	0.0	0.0	0.0

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	133.9	133.0	131.4	129.1	125.7	122.8	119.9	115.9	112.9	109.9	106.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	132.0	129.9	126.5	123.7	120.8	116.9	113.9	110.9	106.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	134.0	130.9	127.0	124.0	120.9	117.0	114.0	110.9	106.9	103.9	100.9	97.8
		Error [dB]	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2

Range: High; Steady level nominal result = 114dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	114.0	113.9	113.0	111.4	109.1	105.7	102.8	99.9	95.9	92.9	89.9	86.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	112.0	109.9	106.5	103.7	100.8	96.9	93.9	90.9	86.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	114.0	110.9	107.0	104.0	100.9	97.0	94.0	90.9	86.9	83.9	80.9	77.8
		Error [dB]	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2

VIBRATION LEVEL METER

1. CALIBRATION (electrical)

LEVEL METER function; Characteristic: HP10; $f=79,6\text{Hz}$; Input signal =140dB;

Range	Low	High
Indication [dB]	140.0	140.0
Error [dB]	0.0	0.0

2. CALIBRATION (vibrational)

LEVEL METER function; Range: High; Input signal: 120dB;

Characteristic	Reference frequency [Hz]	Correct value [dB]	Indication [dB]	Error [dB]
HP1	79,6	120.0	120.0	0.0
HP10	79,6	120.0	120.0	0.0
H-A	79,6	106.1	106.1	0.0
W-Bxy	7,96	108.1	108.0	-0.1
W-Bc	7,96	115.3	115.2	-0.1

Calibration measured with the accelerometer DYTRAN type 3185D No. 2442. Calibration factor: -0.1dB

3. INTERNAL NOISE LEVEL (electrical)

LEVEL METER function; Range: Low; Back-light – off

Characteristic	HP1	HP10	H-A	WBx-y	WBc
Indication [dB]	28.6	28.6	34.6	43.9	42.9

ENVIRONMENTAL CONDITIONS

Temperature	Relative humidity	Ambient pressure
25 °C	29%	1007 hPa

TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 401	87	Signal generator
2.	SVANTEK	SVAN 912A	6120	Sound & Vibration Analyser
3.	SOAR	3430	90CA1811	Digital voltmeter
4.	SVANTEK	SV30A	5369	Acoustic calibrator
5.	SVANTEK	ST02	-	Microphone equivalent electrical impedance (18pF)
6.	SVANTEK	SV4366	3190	Reference accelerometer

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: Ryszard Leoniak 

Test date: 2007-08-02

Range: High; Steady level nominal result = 94dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	94.0	93.9	93.0	91.4	89.1	85.6	82.8	79.9	75.9	72.9	69.9	66.8
		Error [dB]	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2
	Slow	Indication [dB]	92.0	89.9	86.5	83.7	80.8	76.9	73.9	70.9	66.9	-	-	-
		Error [dB]	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	93.9	90.9	87.0	83.9	80.9	77.0	73.9	70.9	66.9	63.9	60.8	57.8
		Error [dB]	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2

Range: High; Steady level nominal result = 74dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	74.0	74.0	73.1	71.4	69.2	65.7	62.9	59.9	56.0	53.0	49.9	46.9
		Error [dB]	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
	Slow	Indication [dB]	72.0	70.0	66.6	63.8	60.9	57.0	54.0	51.0	47.0	-	-	-
		Error [dB]	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
SEL	-	Indication [dB]	74.0	71.0	67.0	64.0	61.0	57.0	54.0	51.0	47.0	44.0	41.0	37.9
		Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Range: High; Steady level nominal result = 54dB

Result	Detector	Duration [ms]	1000	500	200	100	50
MAX	Fast	Indication [dB]	54.0	54.0	53.0	51.4	49.2
		Error [dB]	0.0	0.1	0.0	0.0	0.0
	Slow	Indication [dB]	52.0	50.0	46.6	43.8	40.9
		Error [dB]	0.0	0.1	0.0	0.0	0.0
SEL	-	Indication [dB]	54.0	51.0	47.0	44.0	41.0
		Error [dB]	0.0	0.0	0.0	0.0	0.0

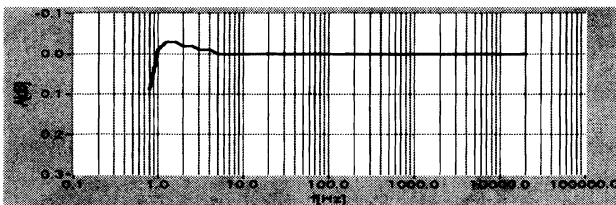
Range: High; Steady level nominal result = 46dB

Result	Detector	Duration [ms]	1000	500	200
MAX	Fast	Indication [dB]	46.0	45.9	45.1
		Error [dB]	0.0	0.0	0.1
	Slow	Indication [dB]	44.0	42.0	38.6
		Error [dB]	0.0	0.1	0.0
SEL	-	Indication [dB]	46.0	43.0	39.1
		Error [dB]	0.0	0.0	0.1

5. FREQUENCY RESPONSE* (electrical)

LEVEL METER function; Characteristic: Z; Range: High; Input signal =135 dB;

Calculated Filter Response



Measured Filter Response with Preamplicator SV12L
(f-frequency, A-attenuation)

f [Hz]	A [dB]	f [Hz]	A [dB]	f [Hz]	A [dB]	f [Hz]	A [dB]	f [Hz]	A [dB]
0.8	0.6	6.3	0.1	50	0.0	400	0.0	3150	0.0
1	0.4	8	0.0	63	0.0	500	0.0	4000	0.0
1.25	0.2	10	0.1	80	0.0	630	0.0	5000	0.0
1.6	0.2	12.5	0.0	100	0.0	800	0.0	6300	0.0
2	0.1	16	0.0	125	0.0	1000	0.0	8000	0.0
2.5	0.1	20	0.0	160	0.0	1250	0.0	10000	0.0
3.15	0.1	25	0.0	200	0.0	1600	0.0	12500	0.0
4	0.1	31.5	0.0	250	0.0	2000	0.0	16000	0.0
5	0.0	40	0.0	315	0.0	2500	0.0	20000	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)

Characteristic	Z	A	C
Level [dB]	<20	<10	<11

* measured with preamplifier SVANTEK type SV12L No. 13413.

7. INTERNAL NOISE LEVEL (acoustical - compensated)

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

Range	Low	High
Indication [dB]	<15	17.3

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 13529

Sound Calibrator Certificate

Calibrator : Svantek Type SV30A



Serial no : 10881
Level 1 : 93.95 dB
Level 2 : 113.98 dB
Frequency : 1000 Hz

The stated level is valid at reference conditions.

Calibrator signal distortion for 94dB level: 0.08 %
Calibrator signal distortion for 114dB level: 0.08 %
Short term level stability : 0.05 dB
Frequency stability : 0.01 %

Measured according to IEC 60942.

The stated level is relative to 20 uPa .

The level is traceable to GUM, Poland,

with a calculated uncertainty less then ± 0.15 dB (2 * sd).

Reference conditions

Pressure : 1013.2 hPa

Temperature : 23.0 °C

Relativite humidity : 50 %RH

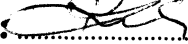
Masurment conditions

Presure : 1003 hPa

Temperature : 29 °C

Relativite humidity : 44 %RH

Date : 2007-07-17

Signature : 

Sound Calibrator Certificate

Calibrator : Svantek Type SV30A



Serial no : 10882
Level 1 : 93.95 dB
Level 2 : 113.98 dB
Frequency : 1000 Hz

The stated level is valid at reference conditions.

Calibrator signal distortion for 94dB level: 0.08 %
Calibrator signal distortion for 114dB level: 0.11 %
Short term level stability : 0.05 dB
Frequency stability : 0.01 %

Measured according to IEC 60942.

The stated level is relative to 20 uPa .

The level is traceable to GUM, Poland,

with a calculated uncertainty less then ± 0.15 dB (2 * sd).

Reference conditions

Pressure : 1013.2 hPa

Temperature : 23.0 °C

Relativite humidity : 50 %RH

Masurment conditions

Presure : 1003 hPa

Temperature : 29 °C

Relativite humidity : 47 %RH

Date : 2007-07-17

Signature : 