



DKD-K-27801



SPEKTRA Schwingungstechnik und Akustik GmbH Dresden  
Kalibriersysteme · Spezialausrüstungen · DKD-Laboratorium · Umweltprüfungen

## Kalibrierschein *Calibration Certificate*

Kalibrierzeichen  
*Calibration label*

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Gegenstand <i>Object</i>	<b>Sound level meter</b>
Hersteller <i>Manufacturer</i>	<b>SGAudio</b>
Typ <i>Type</i>	<b>10EaZy</b>
Fabrikat/Serien-Nr. <i>Serial number</i>	<b>99</b>
Auftraggeber <i>Customer</i>	<b>SGAudio Aps. DK-2000 Frederiksberg, Denmark</b>
Auftragsnummer <i>Order No.</i>	<b>80668</b>
Anzahl der Seiten des Kalibrierscheines <i>Number of pages of the certificate</i>	<b>14</b>
Datum der Kalibrierung <i>Date of calibration</i>	<b>13.10.2008</b>

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).

Der DKD ist Unterzeichner der multi-lateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.

Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

*This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).*

*The DKD is signatory to the multilateral agreements of the European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates.*

*The user is obliged to have the object recalibrated at appropriate intervals.*

Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung sowohl der Akkreditierungsstelle des DKD als auch des ausstellenden Kalibrierlaboratoriums. Kalibrierscheine ohne Unterschrift und Stempel haben keine Gültigkeit.

*This calibration certificate may not be reproduced other than in full except with the permission of both the Accreditation Body of the DKD and the issuing laboratory. Calibration certificates without signature and seal are not valid.*

Stempel <i>Seal</i>	Datum <i>Date</i>	Stellv. Leiter des Kalibrierlaboratoriums <i>Deputy head of the calibration laboratory</i>	Bearbeiter <i>Person in charge</i>
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14.10.2008 Philipp Begoff

H.-G. Uszakiewicz

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## 1. Object of Calibration

	Manufacturer	Type	Serial number
Sound level meter	<b>SGAudio</b>	<b>10EaZy Hardware</b>	<b>99</b>
Sound level meter software	<b>SGAudio</b>	<b>10EaZy</b>	<b>Version 1.6</b>
Microphone	<b>SGAudio</b>	<b>10EaZy microphone</b>	<b>39188</b>
User manual	<b>SGAudio</b>	<b>10EaZy User Manual</b>	<b>Version 1.6</b>

### First visual check:

The sound level meter and all accessory is in apparent good order and condition.

## 2. Calibration Method

The acoustic calibration followed IEC 61672-3.

## 3. Environmental Conditions

Environmental temperature of the test object:	<b>(24,8 ± 1) °C</b>
Relative humidity:	<b>(52 ± 5)%</b>
Atmospheric pressure:	<b>(1012 ± 5) hPa</b>

## 4. Measurement Uncertainty

These are the total relative measurement uncertainties at selected values:

### Acoustic calibration followed IEC 61672-3

#### Pressure calibration

- with Pistonfon (250 Hz, 124 dB):	<b>± 0,2 dB</b>
- with Sound level calibrator (1 kHz, 94 dB):	<b>± 0,2 dB</b>

#### Deviation of indication in a anechoic chamber

125 Hz bis < 250 Hz	<b>± 0,65 dB</b>
250 Hz bis 8 kHz	<b>± 0,4 dB</b>
> 8 kHz bis 10 kHz	<b>± 0,5 dB</b>
> 10 kHz bis 20 kHz	<b>± 0,6 dB</b>

### Electrical test followed IEC 61672-3

#### Frequency weighting

- at reference point 1 kHz	<b>± 0,1 dB</b>
- in the frequency range 31,5 Hz to 20 kHz	<b>± 0,1 dB</b>

Level linearity at 31,5 Hz, 4 kHz, 8 kHz: **± 0,1 dB**

Toneburst response bei 4 kHz: **± 0,1 dB**

Peak C sound level: **± 0,1 dB**

Overload indication: **± 0,1 dB**

The specified values are the extended measurement uncertainties obtained by multiplying the standard measurement uncertainties by extension factor  $k = 2$ . They were ascertained in line with DKD-3. The values of the measuring quantity fall into the assigned intervals with a probability of 95 %.

Deutscher Kalibrierdienst is co-signatory to the multilateral agreement of the European Co-operation for Accreditation (EA) on the mutual recognition of calibration certificates. At this moment, the list of signatories also includes the accreditation offices in Belgium, Denmark, Finland, France, Ireland, Italy, the Netherlands, Norway, Austria, Portugal, Sweden, Switzerland, Spain and the United Kingdom. Furthermore equivalent agreements have been concluded with the accreditation offices of Australia, New Zealand, South Africa and the Czech Republic.

## 5. Components of the Reference Measuring Equipment

	Manufacturer	Type	Serial number
pistonfon	Brüel & Kjaer	4228	2484490
acoustic calibrator	Brüel & Kjaer	4231	2501479
1/2"-Condenser microphone	Brüel & Kjaer	4191 / MV203	2497757 / 1635
sound measuring station	SPEKTRA	SRS35	200717
anechoic chamber	SPEKTRA	-	-

## 6. Sound level meter calibration results

### Acoustic calibration followed IEC 61672-3

Calibration with calibrator	Results agree with IEC 61672-3 class 1
Free-field frequency response, A weighting	Results agree with IEC 61672-3 class 1
Free-field frequency response, Peak C weighting	Results agree with IEC 61672-3 class 1
Free-field frequency response, LIN weighting	LIN-weighting not aviable

### Electrical test followed IEC 61672-3

Frequency response, A weighting	Results agree with IEC 61672-3 class 1
Frequency response, Peak C weighting	Results agree with IEC 61672-3 class 1
Frequency response, LIN weighting	LIN-weighting not aviable
Frequency response at 1 kHz	Results agree with IEC 61672-3 class 1
Level linearity	Results agree with IEC 61672-3 class 1
Tone burst response	Results agree with IEC 61672-3 class 1
Peak C sound level	Results agree with IEC 61672-3 class 1
Self-generated noise	Results agree with IEC 61672-3 class 1

## 7. Acoustic calibration results

### 7.1 Calibration at reference point / indication after adjustment

Calibration Value = 0.01695 (as displayed in the "recalibrate" dialog)

Level range: automatic

Frequency, Hz	Frequency, time weighting	Nominal value, dB	Indication sound level meter, dB	Deviation, dB	Tolerance limit, class 1 dB
1000	A, Fast	93,7	<b>93,7</b>	<b>0,0</b>	$\pm 0,85$

### 7.2 Calibration with pistonphon

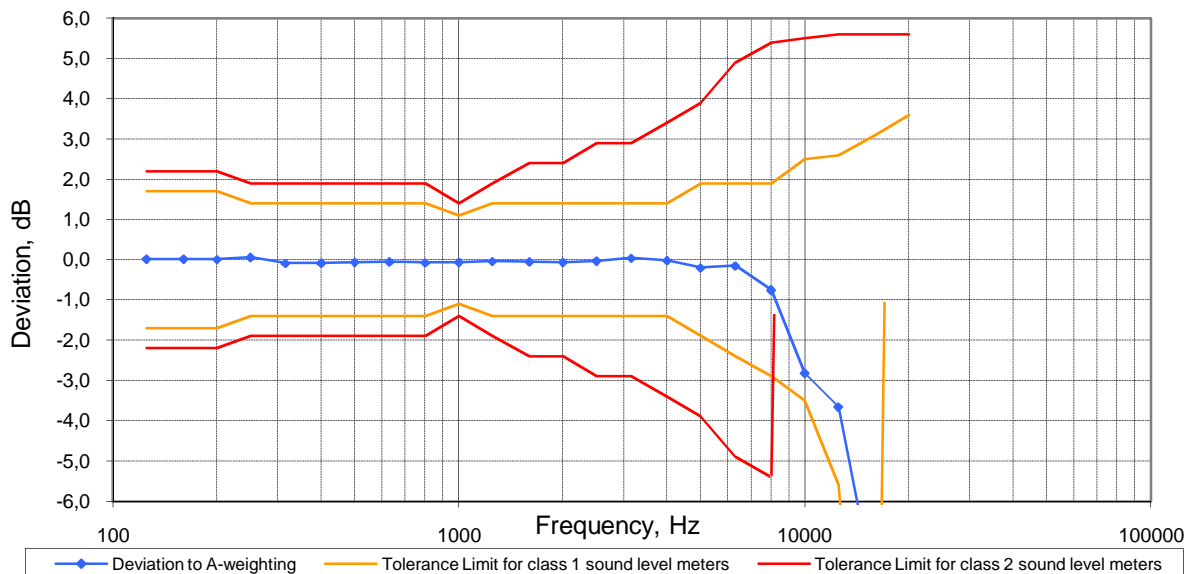
Frequency, Hz	Frequency, time weighting	Nominal value, dB	Indication sound level meter, dB	Deviation, dB	Tolerance limit, class 1 dB
250	A, Fast	115,20	<b>115,7</b>	<b>0,5</b>	$\pm 1,15$
250	C, Peak	126,91	<b>127,4</b>	<b>0,5</b>	$\pm 1,15$

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### 7.3 Free-field response A-weighting

Calibration Value = 0.01695 (as displayed in the "recalibrate" dialog)  
Generated sound pressure level  $L_{LIN}$ : 84 dB

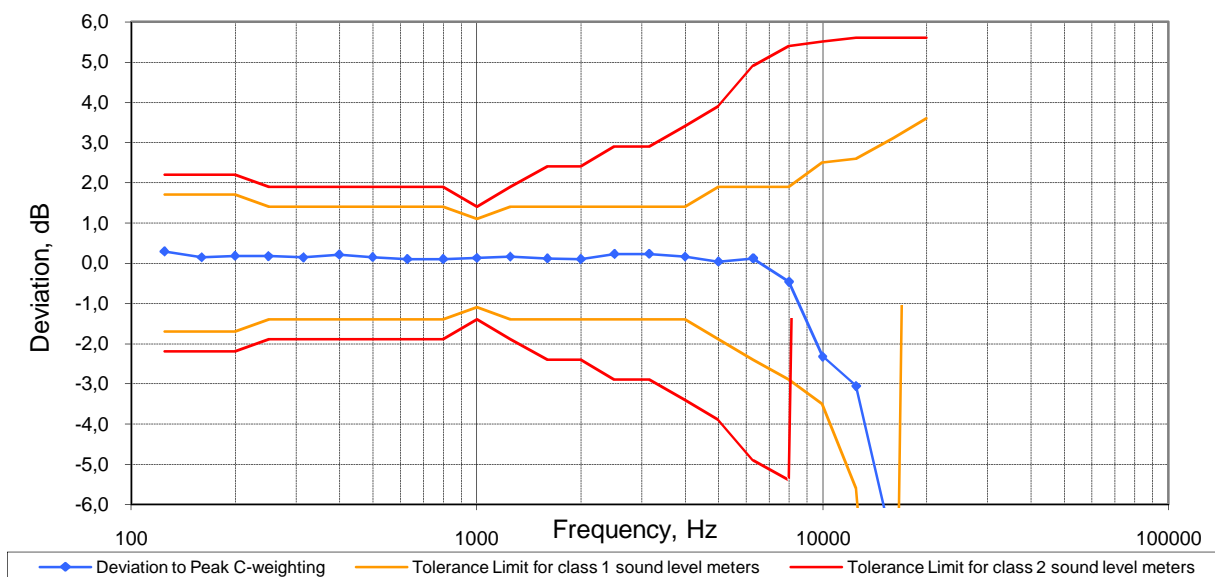
Frequency, Hz	A-weighting (IEC 61672-1), dB	Nominal value sound pressure level $L_{A,F}$ , dB	Indication sound level meter $L_{A,F}$ , dB	Deviation to A-weighting, dB	Tolerance Limit class 1 accordance to [1], dB
125	-16,19	67,8	67,8	0,0	$\pm 1,7$
160	-13,25	70,8	70,8	0,0	$\pm 1,7$
200	-10,85	73,2	73,2	0,0	$\pm 1,7$
250	-8,68	75,3	75,4	0,1	$\pm 1,4$
315	-6,64	77,4	77,3	-0,1	$\pm 1,4$
400	-4,77	79,3	79,2	-0,1	$\pm 1,4$
500	-3,25	80,8	80,7	-0,1	$\pm 1,4$
630	-1,91	82,2	82,1	-0,1	$\pm 1,4$
800	-0,80	83,3	83,2	-0,1	$\pm 1,4$
1000	0,00	84,1	84,0	-0,1	$\pm 1,1$
1250	0,58	84,6	84,6	0,0	$\pm 1,4$
1600	0,99	85,1	85,0	0,0	$\pm 1,4$
2000	1,20	85,3	85,2	-0,1	$\pm 1,4$
2500	1,27	85,3	85,3	0,0	$\pm 1,4$
3150	1,20	85,3	85,3	0,0	$\pm 1,4$
4000	0,96	85,0	85,0	0,0	$\pm 1,4$
5000	0,56	84,6	84,4	-0,2	$\pm 1,9$
6300	-0,11	84,0	83,8	-0,2	-2,4 ; +1,9
8000	-1,15	83,0	82,2	-0,7	-2,9 ; +1,9
10000	-2,49	81,6	78,8	-2,8	-3,5 ; +2,5
12500	-4,25	79,9	76,2	-3,7	-5,6 ; +2,6
16000	-6,70	77,4	69,0	-8,4	-16,6 ; +3,1
20000	-9,34	74,7	50,3	-24,4	-infinity ; +3,6



### 7.4 Free-field response Peak C-weighting

Calibration Value = 0.01695 (as displayed in the "recalibrate" dialog)  
Generated sound pressure level  $L_{LIN}$ : 84 dB

Frequency, Hz	C-weighting (IEC 61672-1), dB	Nominal value sound pressure level $L_{Peak C}$ dB	Indication sound level meter $L_{Peak C}$ dB	Deviation to Peak C-weighting, dB	Tolerance Limit class 1 accordance to [1], dB
125	-0,17	86,8	87,1	0,3	$\pm 1,7$
160	-0,08	87,0	87,1	0,1	$\pm 1,7$
200	-0,03	87,0	87,2	0,2	$\pm 1,7$
250	0,00	87,0	87,2	0,2	$\pm 1,4$
315	0,02	87,1	87,2	0,1	$\pm 1,4$
400	0,03	87,1	87,3	0,2	$\pm 1,4$
500	0,03	87,1	87,2	0,1	$\pm 1,4$
630	0,03	87,1	87,2	0,1	$\pm 1,4$
800	0,02	87,1	87,2	0,1	$\pm 1,4$
1000	0,00	87,1	87,2	0,1	$\pm 1,1$
1250	-0,03	87,0	87,2	0,2	$\pm 1,4$
1600	-0,09	87,0	87,1	0,1	$\pm 1,4$
2000	-0,17	86,9	87,0	0,1	$\pm 1,4$
2500	-0,30	86,8	87,0	0,2	$\pm 1,4$
3150	-0,50	86,6	86,8	0,2	$\pm 1,4$
4000	-0,83	86,2	86,4	0,2	$\pm 1,4$
5000	-1,29	85,8	85,8	0,0	$\pm 1,9$
6300	-1,99	85,1	85,2	0,1	-2,4 ; +1,9
8000	-3,05	84,1	83,6	-0,5	-2,9 ; +1,9
10000	-4,40	82,7	80,4	-2,3	-3,5 ; +2,5
12500	-6,17	80,9	77,9	-3,0	-5,6 ; +2,6
16000	-8,63	78,5	71,4	-7,1	-16,6 ; +3,1
20000	-11,27	75,8	58,5	-17,3	-infinity ; +3,6



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## 8. Electrical test results

### 8.1 Frequency weighting at 1 kHz (reference point)

Frequency: 1 kHz  
Input Voltage: 18,9 mV<sub>RMS</sub>

Sound level meter set: FAST dB(A), Peak dB(C), Peak Hold dB(C)  
Slow dB(A), 1 min Leq dB(A), 1 min Leq dB(C)

Frequency, Hz	Actual value, dB	Deviation to L <sub>A,F</sub> dB	Tolerance limit class 1 accordance to [1], dB
FAST dB(A)	94,0	reference	-
Peak dB(C)	97,1	0,1	± 0,3
Peak Hold dB(C)	97,1	0,1	
Slow dB(A)	94,0	0,0	± 0,3
1 min Leq dB(A)	94,0	0,0	
1 min Leq dB(C)	94,0	0,0	

## 8.2 Electrical test of frequency weightings

### 8.2.1 A-weighting

Determination of frequency response

Frequency range:

31,5 Hz ... 16 kHz

Input voltage at 1 kHz:

18,9 mV<sub>RMS</sub>

Sound level meter set:

L<sub>A,F</sub>

Frequency, Hz	A-weighting, dB	Nominal value, L <sub>A,F</sub> , dB	Actual value, L <sub>A,F</sub> , dB	Deviation to A-weighting, dB	Tolerance limit class 1 accordance to [1], dB
31,5	-39,53	54,47	54,6	0,1	± 1,6
40	-34,54	59,46	59,4	-0,1	± 1,1
50	-30,28	63,73	63,7	0,0	± 1,1
63	-26,22	67,78	67,7	-0,1	± 1,1
80	-22,40	71,60	71,6	0,0	± 1,1
100	-19,15	74,86	74,9	0,0	± 1,1
125	-16,19	77,81	77,8	0,0	± 1,1
160	-13,25	80,75	80,7	0,0	± 1,1
200	-10,85	83,15	83,2	0,1	± 1,1
250	-8,68	85,32	85,3	0,0	± 1,1
315	-6,64	87,36	87,4	0,0	± 1,1
400	-4,77	89,23	89,3	0,1	± 1,1
500	-3,25	90,75	90,8	0,0	± 1,1
630	-1,91	92,09	92,1	0,0	± 1,1
800	-0,80	93,20	93,2	0,0	± 1,1
1000	reference	94,0	94,0	reference	± 0,8
1250	0,58	94,58	94,6	0,0	± 1,1
1600	0,99	94,99	95,0	0,0	± 1,1
2000	1,20	95,20	95,2	0,0	± 1,1
2500	1,27	95,27	95,3	0,0	± 1,1
3150	1,20	95,20	95,2	0,0	± 1,1
4000	0,96	94,96	94,9	-0,1	± 1,1
5000	0,56	94,56	94,4	-0,2	± 1,6
6300	-0,11	93,89	93,6	-0,3	-2,1; +1,6
8000	-1,15	92,85	92,2	-0,6	-2,6; +1,6
10000	-2,49	91,51	90,0	-1,5	-3,1; +2,1
12500	-4,25	89,75	86,3	-3,5	-5,1; +2,1
16000	-6,70	87,30	78,8	-8,5	-16,1; +2,6

## 8.2.2 C-weighting

Determination of frequency response

Frequency range:

31,5 Hz ... 16 kHz

Input voltage at 1 kHz:

18,9 mV<sub>RMS</sub>

Sound level meter set:

L<sub>Peak C</sub>

Frequency, Hz	C-weighting, dB	Nominal value, L <sub>Peak C</sub> , dB	Actual value, L <sub>Peak C</sub> , dB	Deviation to C-weighting, dB	Tolerance limit class 1 accordance to [1], dB
31,5	-3,03	94,07	93,7	-0,37	± 1,6
40	-1,98	95,12	94,8	-0,32	± 1,1
50	-1,30	95,80	95,6	-0,20	± 1,1
63	-0,82	96,28	96,2	-0,08	± 1,1
80	-0,50	96,60	96,5	-0,10	± 1,1
100	-0,30	96,80	96,8	0,00	± 1,1
125	-0,17	96,93	96,9	-0,03	± 1,1
160	-0,08	97,02	97,0	-0,02	± 1,1
200	-0,03	97,07	97,1	0,03	± 1,1
250	0,00	97,10	97,1	0,00	± 1,1
315	0,02	97,12	97,1	-0,02	± 1,1
400	0,03	97,13	97,1	-0,03	± 1,1
500	0,03	97,13	97,1	-0,03	± 1,1
630	0,03	97,13	97,1	-0,03	± 1,1
800	0,02	97,12	97,1	-0,02	± 1,1
1000	reference	97,1	97,1	reference	± 0,8
1250	-0,03	97,07	97,1	0,03	± 1,1
1600	-0,09	97,01	97,0	-0,01	± 1,1
2000	-0,17	96,93	96,9	-0,03	± 1,1
2500	-0,30	96,80	96,8	0,00	± 1,1
3150	-0,50	96,60	96,6	0,00	± 1,1
4000	-0,83	96,28	96,2	-0,07	± 1,1
5000	-1,29	95,81	95,7	-0,11	± 1,6
6300	-1,99	95,11	94,8	-0,31	-2,1; +1,6
8000	-3,05	94,06	93,4	-0,65	-2,6; +1,6
10000	-4,40	92,70	91,2	-1,50	-3,1; +2,1
12500	-6,17	90,93	87,7	-3,23	-5,1; +2,1
16000	-8,63	88,47	80,5	-7,97	-16,1; +2,6

### 8.3 Level linearity

#### 8.3.1 Level linearity at 1 kHz

Frequency: 1 kHz  
 Reference point linearity check: 94,0 dB  
 Upper limit linearity range: 134,0 dB  
 Lower limit linearity range: 53,0 dB  
 Sound level meter set: L<sub>A,F</sub>

Linearity check at dB	Nominal value, dB	Actual value, dB	Linearity error, dB	Tolerance limit class 1 accordance to [1], dB	Overload indication
+47	141,0	138,1	-2,9	± 1,2	Overload
+46	140,0	137,3	-2,7		no
+45	139,0	136,5	-2,5		no
+44	138,0	135,8	-2,2		no
+43	137,0	135,1	-1,9		no
+42	136,0	134,4	-1,6		no
+41	135,0	133,7	-1,3		no
<b>+40</b>	<b>134,0</b>	<b>133,0</b>	<b>-1,0</b>		no
+39	133,0	132,3	-0,7		no
+38	132,0	131,5	-0,5		no
+37	131,0	130,8	-0,2		no
+36	130,0	129,8	-0,2		no
+35	129,0	128,9	-0,1		no
+30	124,0	124,0	0,0		no
+25	119,0	119,0	0,0		no
+20	114,0	114,0	0,0		no
+15	109,0	109,0	0,0		no
+10	104,0	104,0	0,0		no
+5	99,0	99,0	0,0		no
<b>reference 0</b>	<b>94,0</b>	<b>94,0</b>	<b>0,0</b>		no
-5	89,0	89,0	0,0		no
-10	84,0	84,0	0,0		no
-15	79,0	79,0	0,0		no
-20	74,0	74,0	0,0		no
-25	69,0	69,0	0,0		no
-30	64,0	64,0	0,0		no
-31	63,0	63,1	0,1		no
-32	62,0	62,1	0,1		no
-33	61,0	61,1	0,1		no
-34	60,0	60,2	0,2		no
-35	59,0	59,2	0,2		no
-36	58,0	58,3	0,3		no
-37	57,0	57,4	0,4		no
-38	56,0	56,5	0,5		no
-39	55,0	55,5	0,5	no	
-40	54,0	54,6	0,6	no	
<b>-41</b>	<b>53,0</b>	<b>53,6</b>	<b>0,6</b>	no	
-42	52,0	53,5	1,5	no	
-43	51,0	52,8	1,8	UnderRange	

### 8.3.2 Level linearity at 8 kHz

Frequency: 8 kHz  
 Reference point linearity check: 94,0 dB  
 Upper limit linearity range: 132,0 dB  
 Lower limit linearity range: 55,0 dB  
 Sound level meter set: L<sub>A,F</sub>

Linearity check at dB	Nominal value, dB	Actual value, dB	Linearity error, dB	Tolerance limit class 1 accordance to [1], dB	Overload indication
+45	139,0	135,6	-3,4	± 1,2	Overload
+44	138,0	134,9	-3,1		no
+43	137,0	134,2	-2,8		no
+42	136,0	133,5	-2,5		no
+41	135,0	132,9	-2,1		no
+40	134,0	132,2	-1,8		no
+39	133,0	131,6	-1,4		no
<b>+38</b>	132,0	130,9	<b>-1,1</b>		no
+37	131,0	130,3	-0,7		no
+36	130,0	129,6	-0,4		no
+35	129,0	128,8	-0,2		no
+30	124,0	124,0	0,0		no
+25	119,0	119,0	0,0		no
+20	114,0	114,0	0,0		no
+15	109,0	109,0	0,0		no
+10	104,0	104,0	0,0		no
+5	99,0	99,0	0,0		no
<b>reference 0</b>	<b>94,0</b>	94,0	0,0		no
-5	89,0	89,0	0,0		no
-10	84,0	84,0	0,0		no
-15	79,0	79,0	0,0		no
-20	74,0	74,1	0,1		no
-25	69,0	69,1	0,1		no
-30	64,0	64,3	0,3		no
-31	63,0	63,3	0,3		no
-32	62,0	62,4	0,4		no
-33	61,0	61,5	0,5		no
-34	60,0	60,5	0,5		no
-35	59,0	59,6	0,6		no
-36	58,0	58,8	0,8		no
-37	57,0	57,8	0,8	no	
-38	56,0	57,0	1,0	no	
<b>-39</b>	55,0	56,1	<b>1,1</b>	no	
-40	54,0	55,5	1,5	no	
-41	53,0	54,6	1,6	no	
-42	52,0	53,6	1,6	UnderRange	

### 8.3.3 Level linearity at 31,5 Hz

Frequency: 31,5 Hz  
 Reference point linearity check: 84,0 dB  
 Upper limit linearity range: 89,0 dB  
 Lower limit linearity range: 53,0 dB  
 Sound level meter set: L<sub>A,F</sub>

Linearity check at dB	Nominal value, dB	Actual value, dB	Linearity error, dB	Tolerance limit class 1 accordance to [1], dB	Overload indication
+19	103,0	107,0	4,0	± 1,2	Overload
+18	102,0	105,8	3,8		no
+17	101,0	104,7	3,7		no
+16	100,0	103,6	3,6		no
+15	99,0	102,4	3,4		no
+10	94,0	95,9	1,9		no
+5	89,0	88,9	-0,1		no
reference 0	84,0	84,0	0,0		no
-5	79,0	79,0	0,0		no
-10	74,0	74,0	0,0		no
-15	69,0	69,0	0,0		no
-20	64,0	64,1	0,1		no
-25	63,0	63,1	0,1		no
-30	62,0	62,1	0,1		no
-31	61,0	61,1	0,1		no
-32	60,0	60,1	0,1		no
-33	59,0	59,2	0,2		no
-34	58,0	58,2	0,2		no
-35	57,0	57,3	0,3		no
-36	56,0	56,3	0,3		no
-37	55,0	55,5	0,5		no
-38	54,0	54,5	0,5		no
-39	53,0	54,0	1,0		no
-40	52,0	53,3	1,3	no	
-41	51,0	52,2	1,2	UnderRange	

### 8.4 Toneburst response

Upper Limit for the sound level meter: 135,00 dB  
 Level reduction: 3,00 dB  
**Reference level for toneburst response: 132,00 dB**  
**Frequency: 4 kHz**  
 Sound level meter set for reference point: Fast dB(A)  
 Sound level meter set for test of toneburst response: Max Fast dB(A)

Toneburst duration, ms	Nominal value $L_{A,F}$ or $L_{A,F,max}$ dB	Actual value $L_{A,F}$ or $L_{A,F,max}$ dB	Deviation, dB	Tolerance limit class 1 according to [1], dB	Overload indication
4 kHz steady sine	132,00	132,0	reference point	-	no
200	131,00	131,0	0,0	$\pm 0,6$	no
2	114,00	113,9	-0,1	+1,1 ; -1,6	no
0,25	106,00	104,9	-1,1	+1,1 ; -3,1	no

### 8.5 Peak C sound level

Upper Limit for the sound level meter: 135,00 dB  
 Level reduction: 8,00 dB  
**Reference level for peak C sound level: 127,00 dB**  
**Frequency: 500 Hz**  
 Sound level meter set for reference point: 1 min Leq dB(C)  
 Sound level meter set for test of peak C sound level: Peak Hold dB(C)

Toneburst duration, ms	Nominal value $L_{C,F}$ or $L_{C,peak}$ dB	Actual value $L_{C,F}$ or $L_{C,peak}$ dB	Deviation, dB	Tolerance limit class 1 according to [1], dB	Overload indication
500 Hz steady sine	127,00	122,00	reference point	-	no
positive Halfsine	129,40	129,30	-0,10	$\pm 1,1$	no
negative Halfsine	129,40	129,00	-0,40	$\pm 1,1$	no

Upper Limit for the sound level meter: 135,00 dB  
 Level reduction: 8,00 dB  
**Reference level for peak C sound level: 127,00 dB**  
**Frequency: 8 kHz**  
 Sound level meter set for reference point: 1 min Leq dB(C)  
 Sound level meter set for test of peak C sound level: Peak Hold dB(C)

Toneburst duration, ms	Nominal value $L_{C,F}$ or $L_{C,peak}$ dB	Actual value $L_{C,F}$ or $L_{C,peak}$ dB	Deviation, dB	Tolerance limit class 1 according to [1], dB	Overload indication
8 kHz steady sine	127,00	119,00	reference point	-	no
Full period	130,40	130,40	0,00	$\pm 2,1$	no

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## 8.6 Self-generated noise

### 8.6.1 Self-generated noise with microphone

Anticipated level of self-generated noise acc. to manual: 39,4 dB(A)  
 Displayed level: **43,0 dB(A)**

### 8.6.2 Self-generated noise with equivalent electrical capacity

Microphone cartridge is replaced by an substitution capacitance

Measured level: Self-generated noise according to manual  
 Displayed level  $L_{Aeq, 1 \text{ min}}$  **40,0 dB (A)** 40 dB(A)

## 9. Results

complete successfully test in accordance with [3]	Pattern evaluation tests [5] had been performed	Result
Yes	No	The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2002 because evidence was not publicly available, from an independent testing organization responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002 and because the periodic tests of IEC 61672-3:2006 cover only a limited of the specification in IEC 61672-1:2002.

The sound level meter was calibrated and the accuracy class was determined. The existing measurement categories of the sound level meter and its accuracy class allowing the sound level meter being used as a noise measurement device according to DIN 15905-5:2007-11.

## 10. References

- [1] IEC 61672 - 1 Electroacoustics - Sound level meters - Part 1: Requirements
- [2] IEC 61672 - 2 Electroacoustics - Sound level meters - Part 2: Pattern evaluation tests
- [3] IEC 61672 - 3 Electroacoustics - Sound level meter - Part 3: Periodic tests
- [4] IEC 61094 - 4 Electroacoustics -Measurement microphones
- [5] DIN 60651 Sound level meter