

B2. Noise Monitoring Equipment Calibration Certificates



Certificate of Calibration

for

Description: Sound Level Calibrator
Manufacturer: Larson Davis
Type No.: CAL200
Serial No.: 16878

Submitted by:

Customer: Envirotech Services Co.
Address: Rm. 712, 7/F., My Loft, 9 Hoi Wing Road,
Tuen Mun, Hong Kong

Upon receipt for calibration, the instrument was found to be:

Within
 Outside

the allowable tolerance.

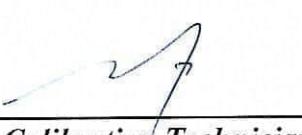
The test equipments used for calibration are traceable to National Standards via:

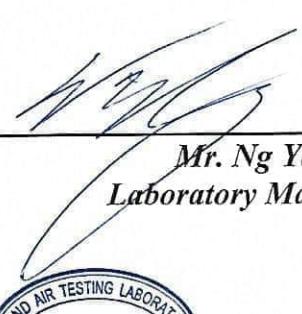
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 25 September 2024

Date of calibration: 27 September 2024

Date of NEXT calibration: 26 September 2025

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 27 September 2024



Certificate No.: APJ24-072-CC002

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1. Calibration Precautions:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Specifications:

Calibration check

3. Calibration Conditions:

Air Temperature:	24.9 °C
Air Pressure:	1006 hPa
Relative Humidity:	54.5 %

4. Calibration Equipment:

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV240109	HOKLAS

5. Calibration Results

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	93.6
114.0	113.6	114.4	113.7

6. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacturer's specification as IEC 60942 Class 1.

Note:

The values given in this certification only related to the values measured at the time of the calibration.



Certificate No.: APJ24-072-CC002

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3-20-41 Higashimotomachi Kokubunji Tokyo 185-8533
Phone:042(359)7888, Facsimile:042(359)7442

Certificate of Calibration

Name : Class 1 Sound Level Meter

Model : NL-53 **S/No.** : 01141566

Date of Calibration : January, 06, 2025

We hereby certify that the above product was tested and calibrated according to the prescribed Rion procedures, and that it fulfills specification requirements.

The measuring equipment and reference devices used for testing and calibrating this unit are managed under the Rion traceability system and are traceable according to official Japanese standards and official standards of countries belonging to the International Committee of Weights and Measures.

RION CO., LTD.

A handwritten signature in black ink that reads 'J. Hamamura'.

Manager, Quality Control Department



3-20-41 Higashimotomachi Kokubunji Tokyo 185-8533
Phone:042(359)7888, Facsimile:042(359)7442

Certificate of Calibration

Name : Class 1 Sound Level Meter

Model : NL-53 **S/No.** : 01141565

Date of Calibration : January, 06, 2025

We hereby certify that the above product was tested and calibrated according to the prescribed Rion procedures, and that it fulfills specification requirements.

The measuring equipment and reference devices used for testing and calibrating this unit are managed under the Rion traceability system and are traceable according to official Japanese standards and official standards of countries belonging to the International Committee of Weights and Measures.

RION CO., LTD.

A handwritten signature in black ink, appearing to read 'J. Kawamura'.

Manager, Quality Control Department



Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: RION
Type No.: NL-52 (Serial No.: 00175561)
Microphone: UC-59 (Serial No.: 16651)
Preamplifier: NH-25 (Serial No.: 65663)

Submitted by:

Customer: Envirotech Services Co.
Address: Rm. 712, 7/F., My Loft, 9 Hoi Wing Road,
 Tuen Mun, Hong Kong

Upon receipt for calibration, the instrument was found to be:

Within (31.5Hz – 8kHz)
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 03 January 2025

Date of calibration: 06 January 2025

Date of NEXT calibration: 05 January 2026

Calibrated by: Ng
Calibration Technician

Certified by: Ng
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 06 January 2025

Certificate No.: APJ24-124-CC001



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1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature:	22.9 °C
Air Pressure:	1019 hPa
Relative Humidity:	33.2 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
			Slow			94.0	±0.3

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB SPL	Fast	94	31.5	94.2	± 2.0
				63	94.3	± 1.5
				125	94.2	± 1.5
				250	94.2	± 1.4
				500	94.1	± 1.4
				1000	94.0	Ref
				2000	93.7	± 1.6
				4000	93.2	± 1.6
				8000	91.8	$+2.1; -3.1$

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	31.5	54.8	-39.4 ± 2.0
				63	68.1	-26.2 ± 1.5
				125	78.1	-16.1 ± 1.5
				250	85.5	-8.6 ± 1.4
				500	90.9	-3.2 ± 1.4
				1000	94.0	Ref
				2000	94.9	$+1.2 \pm 1.6$
				4000	94.2	$+1.0 \pm 1.6$
				8000	90.8	$-1.1 \pm 2.1; -3.1$

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB SPL	Fast	94	31.5	91.2	-3.0 ± 2.0
				63	93.4	-0.8 ± 1.5
				125	94.1	-0.2 ± 1.5
				250	94.2	-0.0 ± 1.4
				500	94.1	-0.0 ± 1.4
				1000	94.0	Ref
				2000	93.6	-0.2 ± 1.6
				4000	92.4	-0.8 ± 1.6
				8000	88.9	$-3.0 \pm 2.1; -3.1$

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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacturer's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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Certificate of Calibration

for

Description: Sound Level Meter
Manufacturer: RION
Type No.: NL-52 (Serial No.: 00542913)
Microphone: UC-53A (Serial No.: 99995)
Preamplifier: NH-25 (Serial No.: 43068)

Submitted by:

Customer: Envirotech Services Co.
Address: Rm. 712, 7/F., My Loft, 9 Hoi Wing Road,
Tuen Mun, Hong Kong

Upon receipt for calibration, the instrument was found to be:

Within (31.5Hz – 8kHz)
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 August 2024

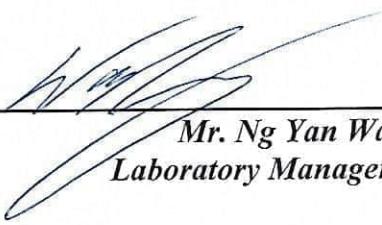
Date of calibration: 29 August 2024

Date of NEXT calibration: 28 August 2025

Calibrated by: 
Calibration Technician

Date of issue: 29 August 2024

Certificate No.: APJ24-058-CC001

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager



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1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 24.6 °C
 Air Pressure: 1004 hPa
 Relative Humidity: 53.9 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
				104		104.0	±0.3
				114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	1000	94.0	Ref
						104.0	±0.3

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB SPL	Fast	94	31.5	92.7	± 2.0
				63	93.7	± 1.5
				125	93.9	± 1.5
				250	94.0	± 1.4
				500	94.0	± 1.4
				1000	94.0	Ref
				2000	93.9	± 1.6
				4000	94.3	± 1.6
				8000	92.4	$+2.1; -3.1$

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	31.5	53.5	-39.4 ± 2.0
				63	67.5	-26.2 ± 1.5
				125	77.8	-16.1 ± 1.5
				250	85.3	-8.6 ± 1.4
				500	90.8	-3.2 ± 1.4
				1000	94.0	Ref
				2000	95.2	$+1.2 \pm 1.6$
				4000	95.3	$+1.0 \pm 1.6$
				8000	91.3	$-1.1 \pm 2.1; -3.1$

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB C SPL	Fast	94	31.5	89.7	-3.0 ± 2.0
				63	92.9	-0.8 ± 1.5
				125	93.8	-0.2 ± 1.5
				250	94.0	-0.0 ± 1.4
				500	94.0	-0.0 ± 1.4
				1000	94.0	Ref
				2000	93.8	-0.2 ± 1.6
				4000	93.5	-0.8 ± 1.6
				8000	89.4	$-3.0 \pm 2.1; -3.1$

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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacturer's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.10
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.10
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

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