



Date of Issue: 01 November 2018

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Certificate Number: UCRT18/2100

Page 1 of 2 Pages
Approved Signatory

K. Mistry

Customer ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Instrument Manufacturer Type Serial No. / Version Sound Level Meter NL-52 Rion 00231665 Rion **Firmware** 1.8 Rion Pre Amplifier NH-25 21609 UC-59 Microphone 13789 Rion Calibrator NC-74 34536109 Rion

Calibrator adaptor type if applicable NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 29 October 2018 ANV Job No. UKAS18/10680

Date Calibrated 01 November 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	01 October 2018	UCRT18/1999	0653

Certificate Number UCRT18/2100

Page 2 of 2 Pages

UKAS Accredited Calibration Laboratory No. 0653

Sound Level Meter Instruction m			just the s	ound lev	els inc	dicated.		
SLM instruction manual title Sc	ound Level Mete	er NL-42 / NI	52					
SLM instruction manual ref / issue		11-03						
SLM instruction manual source		Manufacture	r					
Internet download date if applicable		N/A						
Case corrections available		Yes						
Uncertainties of case corrections		Yes						
Source of case data		Manufacture	r					
Wind screen corrections available		Yes						
Uncertainties of wind screen correc	tions	Yes						
Source of wind screen data		Manufacture	r					
Mic pressure to free field correction	S	Yes						
Uncertainties of Mic to F.F. correction	ons	Yes						
Source of Mic to F.F. corrections		Manufacture	r					
Total expanded uncertainties within	the requiremen	nts of IEC 6167	2-1:2002	Yes	5			
Specified or equivalent Calibrator		Specified						
Customer or Lab Calibrator		Lab Calibrato	r					
Calibrator adaptor type if applicable		NC-74-002						
Calibrator cal. date		03 October 20	18					
Calibrator cert. number		UCRT18/201	0					
Calibrator cal cert issued by		0653						
Calibrator SPL @ STP		94.01	dB Ca	alihration	referen	ce sound	1 nressu	re level
Calibrator frequency		1001.98				requency	•	10 10 001
Reference level range		25 - 130	dB	alibration	CHECK	requericy		
				0.147		1440 45		
Accessories used or corrected for c			sion Cable					
Note - if a pre-amp extension cable	is listed then it	was used betw	een the S	LIVI and 1	ne pre-	amp.		
Environmental conditions during tes		Start	E	nd				
Tempera		21.84	22	2.22	±	0.30 °		
Humidity		47.2	46	6.6	±	3.00 %		
Ambient	Pressure	99.30	99).34	±	0.03 k	ίРа	
Response to associated Calibrator	at the environm	ental condition	s above.					
· · · · · · · · · · · · · · · · · · ·	4.0 dB		usted indic	cated leve	el l	94.0	dB	3
The uncertainty of the associated ca					-	0.10	dB	
Self Generated Noise This test					<u>.</u>	00		
Microphone installed (if requested by				I/A	dB	A Weight	ting	\neg
Uncertainty of the microphone insta	·			I/A I/A	dВ	T weight	urig	
						╡		
Microphone replaced with electrical	input device -		Under Ra	nge indic		<u> </u>		
Weighting A	LUD	<u>C</u>	Lub	40.0	Z	Lub		
10.2 dE		14.2 dB	UR	19.8	dB	UR		
Uncertainty of the electrical self ger				.12	dB	_		
The reported expanded uncertainty			•			•		_
a coverage probability of approxima	itely 95%. The	uncertainty eva	aluation ha	as been d	carried o	out in acc	ordance	with
UKAS requirements.								
For the test of the frequency weight	ings as per para	agraph 12. of II	EC 61672-	-3:2006 t	he actu	al microp	hone fre	e field
response was used.								
The acoustical frequency tests of a	frequency weig	hting as per pa	ragraph 1	1 of IEC	61672-	3:2006 w	ere carri	ied out
using an electrostatic actuator.	_	,						
		END						
Calibrated by: B. Bogdan								R 2
Additional Comments								



Page



Pages

Date of Issue: 15 March 2018 Certificate Number: UCRT18/1297

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way

Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved S	ignatory		
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K. Mistry		vert,	
IK. IVIISTRY			

of

Customer ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Manufacturer Instrument Type Serial No. / Version

NL-52 00320643 Rion Sound Level Meter **Firmware** 1.8 Rion NH-25 10651 Rion Pre Amplifier Microphone UC-59 03392 Rion NC-74 34536109 Rion Calibrator

Calibrator adaptor type if applicable NC-74-002

Performance Class

Test Procedure TP 2.SLM 61672-3 TPS-49

1

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 14 March 2018 ANV Job No. UKAS18/03174

Date received 14 March 2010

Date Calibrated 15 March 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate Dated Certificate No. Laboratory 02 February 2017 UCRT17/1053 7623

UKAS Accredited Calibration Laboratory No. 0653

Certificate Number UCRT18/1297

Page Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated. SLM instruction manual title Sound Level Meter NL-42 / NL-52 SLM instruction manual ref / issue 11-03 SLM instruction manual source Manufacturer Internet download date if applicable N/A Case corrections available Yes Uncertainties of case corrections Yes Source of case data Manufacturer Wind screen corrections available Yes Yes Uncertainties of wind screen corrections Source of wind screen data Manufacturer Mic pressure to free field corrections Yes Uncertainties of Mic to F.F. corrections Yes Source of Mic to F.F. corrections Manufacturer Total expanded uncertainties within the requirements of IEC 61672-1:2002 Yes Specified or equivalent Calibrator Specified Customer or Lab Calibrator Lab Calibrator NC-74-002 Calibrator adaptor type if applicable 07 March 2018 Calibrator cal. date UCRT18/1261 Calibrator cert, number Calibrator cal cert issued by 0653 94.00 dB Calibrator SPL @ STP Calibration reference sound pressure level 1001.86 Hz Calibrator frequency Calibration check frequency 25 - 130 dB Reference level range Extension Cable & Wind Shield WS-15 Accessories used or corrected for during calibration -Note - if a pre-amp extension cable is listed then it was used between the SLM and the pre-amp. Environmental conditions during tests Start End 23.12 23.14 0.30 °C Temperature ± 3.00 %RH 42.9 Humidity 46.8 ± 97.87 97.88 0.03 kPa **Ambient Pressure** + Response to associated Calibrator at the environmental conditions above. Adjusted indicated level 94.0 dB Initial indicated level 94.1 dB 0.10 dB The uncertainty of the associated calibrator supplied with the sound level meter ± Self Generated Noise This test is currently not performed by this Lab. Microphone installed (if requested by customer) = Less Than N/A dB A Weighting N/A dB Uncertainty of the microphone installed self generated noise ± UR = Under Range indicated Microphone replaced with electrical input device -Weighting C 13.8 dB UR 18.1 dB UR 22.8 dB UR 0.12 dB Uncertainty of the electrical self generated noise ± The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with

UKAS requirements.

For the test of the frequency weightings as per paragraph 12. of IEC 61672-3:2006 the actual microphone free field response was used.

The acoustical frequency tests of a frequency weighting as per paragraph 11 of IEC 61672-3:2006 were carried out using an electrostatic actuator.

		END	
Calibrated by:	B. Bogdan		1

Additional Comments





Date of Issue: 21 May 2018

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Certificate Number: UCRT18/1527

Page 1 of 2 Pages

Approved Signatory

K. Mistry

Customer ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Instrument Serial No. / Version Manufacturer Type Sound Level Meter NL-52 Rion 00410083 Rion **Firmware** 1.8 Rion Pre Amplifier NH-25 10076 UC-59 Microphone 02432 Rion NC-74 Rion Calibrator 34536109 Calibrator adaptor type if applicable NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 17 May 2018 ANV Job No. UKAS18/05313

Date Calibrated 21 May 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	06 June 2017	UCRT17/1454	0653

Certificate Number UCRT18/1527

Page 2 of 2 Pages

UKAS Accredited Calibration Laboratory No. 0653

Additional Comments

Sound Level Meter Instruction	า manual and	d data u	sed to ad	ljust the	sound	d level	s ind	icated.			
	Sound Level I	Meter	NL-42 / N	L-52							
SLM instruction manual ref / issu	ie		11-03								
SLM instruction manual source		Ma	anufacture	er							
Internet download date if applical	ble		N/A								
Case corrections available			Yes								
Uncertainties of case corrections	3		Yes								
Source of case data		Ma	anufacture	er							
Wind screen corrections available	e		Yes								
Uncertainties of wind screen corr	rections		Yes								
Source of wind screen data		Ma	anufacture	er							
Mic pressure to free field correcti	ions		Yes								
Uncertainties of Mic to F.F. corre	ctions		Yes								
Source of Mic to F.F. corrections			anufacture								
Total expanded uncertainties with		ments o	f IEC 6167	72-1:200)2	Yes					
Specified or equivalent Calibrator	r		Specified								
Customer or Lab Calibrator			b Calibrate								
Calibrator adaptor type if applical	ble		IC-74-002								
Calibrator cal. date		09	May 201	8							
Calibrator cert. number		UC	RT18/150)2							
Calibrator cal cert issued by			0653								
Calibrator SPL @ STP		94	4.02	dB	Calibrat	tion ref	erend	ce soun	d pres	sure le	vel
Calibrator frequency		100	01.88	Hz	Calibrat				•		
Reference level range			- 130	dB	Calibra		001(11	oquone	<u> </u>		
Accessories used or corrected for	or during calibr			osion Ca	able & W	Vind Sk	iold \	MS-15			
Note - if a pre-amp extension cal											
				1		1	p. 0 0				
Environmental conditions during			tart		End			0.00	°C	ĺ	
	erature		3.73		24.05		±	0.30			
Humid	•		5.9		42.3	-	<u>±</u>	3.00			
<u> </u>	ent Pressure		0.64		100.57		±	0.03	кРа		
Response to associated Calibrate	or at the envir	onmenta	l condition	ns above	∍.						
Initial indicated level	94.1	dB	Adj	usted in	dicated	level		94.0		dB	
The uncertainty of the associated	d calibrator su	pplied wi	th the sou	nd level	meter ±	±		0.10		dB	
Self Generated Noise This to	est is currently	not perf	ormed by	this Lab).						
Microphone installed (if requested					N/A		dB A	A Weigh	nting		
Uncertainty of the microphone in		,			N/A		dB	Ī			
Microphone replaced with electric			_	Under	Range ii	ndicate	rq	i			
· · · · · · · · · · · · · · · · · · ·	A T		C	Onder	rtange n	Z	,u				
13.0	dB UR	17.2		UR	23.		BB	UR			
Uncertainty of the electrical self of					0.12		iB	, , , , , , , , , , , , , , , , , , ,			
The reported expanded uncertain			lard uncar	tainty m		l by a c	ovoro	ı Dan fact	tor k-) provid	dina
a coverage probability of approxi											
UKAS requirements.	matery 95 76.	THE UNC	erianity ev	aluation	i iias bei	en can	ieu o	ut III ac	Cordar	ice witi	
For the test of the frequency weight	ahtinas as per	paragra	ph 12. of I	EC 616	72-3:20	06 the	actua	al micro	phone	free fie	eld
response was used.	gridings do por	paragra	p o	200.0	. 2 0.20	00 1110	aotac		priorio		,
The acoustical frequency tests of using an electrostatic actuator.	f a frequency v	weighting	g as per pa	aragrapl	h 11 of I	EC 61	672-3	3:2006 v	vere ca	arried c	out
using an electrostatic actuator.											
Colibrated by: D. Danden		•••	END								
Calibrated by: B. Bogdan											R 2





0653

NC-74-002

Date of Issue: 20 June 2018

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Certificate Number: UCRT18/1634

Page	1	of	2	Pages	
Approved Signatory		1	1,		
		K	VA	lest.	
K. Mistry					

Customer **ANV Measurement Systems**

> **Beaufort Court** 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Instrument Manufacturer Type Serial No. / Version Sound Level Meter NL-52 Rion 00620865 Rion Firmware 1.8 Rion Pre Amplifier NH-25 20925 UC-59 Microphone 03702 Rion NC-74 Calibrator 34536109 Rion

Performance Class

1 Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Calibrator adaptor type if applicable

Approval Number 21.21 / 13.02 Type Approved to IEC 61672-1:2002 YES

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 15 June 2018 ANV Job No. UKAS18/06382

Date Calibrated 20 June 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	24 August 2017	UCRT17/1719	0653

Certificate Number UCRT18/1634

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UKAS Accredited Calibration Laboratory No. 0653

Additional Comments

Sound Level Meter Instruction manual and	d data used to adj	ust the	sound leve	ls ind	icated.	
SLM instruction manual title Sound Level	Meter NL-42 / NL	-52				
SLM instruction manual ref / issue	11-03					
SLM instruction manual source	Manufacturer					
Internet download date if applicable	N/A					
Case corrections available	Yes					
Uncertainties of case corrections	Yes					
Source of case data	Manufacturer					
Wind screen corrections available	Yes					
Uncertainties of wind screen corrections	Yes					
Source of wind screen data	Manufacturer					
Mic pressure to free field corrections	Yes					
Uncertainties of Mic to F.F. corrections	Yes					
Source of Mic to F.F. corrections	Manufacturer					
Total expanded uncertainties within the require		2-1:200)2 Yes			
Specified or equivalent Calibrator	Specified					
Customer or Lab Calibrator	Lab Calibrato	ſ				
Calibrator adaptor type if applicable	NC-74-002					
Calibrator cal. date	11 June 2018					
Calibrator cert. number	UCRT18/1592	2				
Calibrator cal cert issued by	0653					
Calibrator SPL @ STP	94.02	dB	Calibration re	eferenc	ce sound pre	ssure level
Calibrator frequency	1001.95	Hz	Calibration c	heck fi	requency	
Reference level range	25 - 130	dB				
Accessories used or corrected for during calibr	ration - Extens	sion Ca	ble & Wind S	Shield \	WS-15	
Note - if a pre-amp extension cable is listed the						
Environmental conditions during tests	Start		End		•	
Temperature	22.31		22.40	±	0.30 °C	٦
Humidity	39.8		40.1	±	3.00 %RH	1
Ambient Pressure	100.86		100.83	±	0.03 kPa	1
<u> </u>				Τ.	0.00 KFa	
Response to associated Calibrator at the envir				1		
	,		dicated level		94.0	dB
The uncertainty of the associated calibrator su	pplied with the soun	d level	meter ±		0.10	dB
Self Generated Noise This test is currently	not performed by the	nis Lab				
Microphone installed (if requested by customer	r) = Less Than		N/A	dB /	A Weighting	
Uncertainty of the microphone installed self ge	nerated noise ±		N/A	dB]	
Microphone replaced with electrical input device	ce - UR = l	Jnder F	Range indica	ted	1	
Weighting A	C		2	7		
11.0 dB UR	15.1 dB	UR	20.6	dB	UR	
Uncertainty of the electrical self generated nois	se ±		0.12	dB		
The reported expanded uncertainty is based or	n a standard uncerta	ainty m	ultiplied by a	covera	age factor k=	2, providing
a coverage probability of approximately 95%.		-			-	
UKAS requirements.	·					
For the test of the frequency weightings as per response was used.	paragraph 12. of IE	C 616	72-3:2006 the	e actua	al microphone	e free field
•	woighting on nor no	ragrant	11 of IEC 6	1670 3	2:2006 ware a	parried out
The acoustical frequency tests of a frequency using an electrostatic actuator.	weignling as per pai	agrapr	I I I OI IEC 6	10/2-3	o.∠uub were (ameu out
Calibrated by: A Patel	END					 R 1





Date of Issue: 18 June 2018 Certificate Number: UCRT18/1622

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Page 1 of 2 Pages

Approved Signatory

K. Mistry

Customer ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Instrument Serial No. / Version Manufacturer Type Sound Level Meter NL-52 Rion 00620871 Rion Firmware 1.8 Rion Pre Amplifier NH-25 20931 UC-59 Microphone 04569 Rion NC-74 Rion Calibrator 34536109

Calibrator adaptor type if applicable NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 13 June 2018 ANV Job No. UKAS18/06374

Date Calibrated 18 June 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	03 July 2017	UCRT17/1555	0653

Certificate Number UCRT18/1622

Page 2 of 2 Pages

UKAS Accredited Calibration Laboratory No. 0653

Additional Comments

Sound Level Meter Inst	ruction manual an	d data u	sed to ad	just the	e sound leve	els inc	licated.		
SLM instruction manual tit	tle Sound Level	Meter	NL-42 / NI	52					
SLM instruction manual re	ef / issue		11-03						
SLM instruction manual source Manufacturer									
Internet download date if a	applicable		N/A						
Case corrections available			Yes						
Uncertainties of case corre	ections		Yes						
Source of case data		Ma	anufacture	r					
Wind screen corrections a	available		Yes						
Uncertainties of wind scre	en corrections		Yes						
Source of wind screen dat	ta	Ma	anufacture	r					
Mic pressure to free field of	corrections		Yes						
Uncertainties of Mic to F.F			Yes						
Source of Mic to F.F. corre	ections	Ma	anufacture	r					
Total expanded uncertaint				2-1:20	02 Yes				
Specified or equivalent Ca			Specified						
Customer or Lab Calibrate			b Calibrato	r					
Calibrator adaptor type if a	applicable		IC-74-002						
Calibrator cal. date		11	June 2018	3					
Calibrator cert. number		UC	RT18/159	2					
Calibrator cal cert issued by	by		0653						
Calibrator SPL @ STP		94	4.02	dB	Calibration re	eferen	ce sound pre	ssure lev	/el
Calibrator frequency		100	01.95	Hz	Calibration c		•		
Reference level range			- 130	dB	Ganoration		104401109		
Accessories used or corre	etad for during calib				able & Wind S	Shiold	\MQ 15		
Note - if a pre-amp extens									
				T T T T T T T T T T T T T T T T T T T		<u>е рге-</u> 1	amp.		
Environmental conditions			tart		End			7	
	Temperature		3.13		23.12	±	0.30 °C	4	
	Humidity		2.3		42.8	±	3.00 %RH	4	
	Ambient Pressure	10	0.81	ļ	100.76	±	0.03 kPa		
Response to associated C	Calibrator at the envi	ronmenta	l condition	s above	е.				
Initial indicated level	94.1	dB	Adjı	usted in	ndicated level		94.0	dB	
The uncertainty of the ass	ociated calibrator su	ıpplied wi	th the soul	nd leve	l meter ±		0.10	dB	
Self Generated Noise	-								
Microphone installed (if re				l lo Lac	N/A	dB	A Weighting		
Uncertainty of the microph	<u>'</u>				N/A	dB			
Microphone replaced with				Undor	Range indica		f		
Weighting	A	Je -	C	Onder		<u>teu</u> Z	1		
	1.9 dB UR	16.0		UR	21.4	<u>/</u> dB	IUR		
Uncertainty of the electrication			I G D	OIX	0.12	dB			
· · · · · · · · · · · · · · · · · · ·				oint				0	d: a.
The reported expanded ur	•			•			•		_
a coverage probability of a	approximately 95%.	The unce	ertainty eva	aluation	nas been ca	rriea c	out in accorda	nce with	
UKAS requirements.									
For the test of the frequen	cy weightings as pe	r paragra	ph 12. of II	=C 616	72-3:2006 th	e actu	al microphone	e free fie	ld
response was used.									
The acoustical frequency		weighting	g as per pa	ıragrap	n 11 of IEC 6	1672-	3:2006 were o	carried o	ut
using an electrostatic actu	iator.								
			END						
Calibrated by: A Pat	tel								R 1





0653

Date of Issue: 11 April 2018

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Certificate Number: UCRT18/1378

Page of Pages Approved Signatory

J. Harriman

Customer

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No.

ANV MS Hire

Description

Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer Instrument Type Serial No. / Version NL-52 Rion Sound Level Meter 00620895

Rion **Firmware** 1.8 Pre Amplifier NH-25 Rion 10678 UC-59 Rion Microphone 03789 Calibrator NC-74 Rion 34536109

Calibrator adaptor type if applicable NC-74-002

Performance Class

Test Procedure

TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002

YES

Approval Number

21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received

09 April 2018

ANV Job No.

UKAS18/04232

Date Calibrated

11 April 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate

Dated

Certificate No.

Laboratory

03 May 2017

UCRT17/1328

0653

Certificate Number UCRT18/1378

UKAS Accredited Calibration Laboratory No. 0653

None

Page 2 of 2 Pages

Sound Level Meter Inst	ruction manual ar	nd data used to ac	djust the sou	nd levels	indicated.	
SLM instruction manual ti	tle Sound Leve	Meter NL-42 / N	IL-52			
SLM instruction manual re	ef / issue	11-03				
SLM instruction manual se	ource	Manufacture	er			
Internet download date if a	applicable	N/A				
Case corrections available		Yes				
Uncertainties of case corr	ections	Yes				
Source of case data		Manufacture	er			
Wind screen corrections a	available	Yes	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		1W CAL V & 12 15 15 16	
Uncertainties of wind scre	en corrections	Yes				
Source of wind screen dat		Manufacture	er			
Mic pressure to free field of	corrections	Yes			1	
Uncertainties of Mic to F.F		Yes				
Source of Mic to F.F. corre	ections	Manufacture	er			
Total expanded uncertaint	ies within the requir	ements of IEC 616	72-1:2002	Yes		
Specified or equivalent Ca	librator	Specified				
Customer or Lab Calibrato	or	Lab Calibrate				
Calibrator adaptor type if a	applicable	NC-74-002				
Calibrator cal. date		05 April 201	8			
Calibrator cert. number		UCRT18/134	18			
Calibrator cal cert issued by	ру	0653				
Calibrator SPL @ STP		93.98	dB Calibr	ation refer	ence sound pre	ssure level
Calibrator frequency		1001.90	15 9		k frequency	
Reference level range		25 - 130	dB	adon onco	ik iroquorioy	
Accessories used or corre	eted for during calib		sion Cable &	Mind Shio	14 WC 15	
Note - if a pre-amp extens						
Environmental conditions		Start	End	7		
	Temperature	23.38	23.63		± 0.30 °C	٦
	Humidity	36.2	32.1		± 3.00 %RH	\dashv
	Ambient Pressure	99.77	99.73		0.03 kPa	+
			<u> </u>		0.00 KFA	_
Response to associated C				L	1990-1000-100	
Initial indicated level			usted indicate		94.0	dB
The uncertainty of the asso				'±	0.10	dB
Self Generated Noise					5 (0.0)	
Microphone installed (if red			N/A	dB	A Weighting	
Uncertainty of the microphe	one installed self ge	nerated noise ±	N/A	dB		
Microphone replaced with	electrical input devic	ce - UR =	Under Range	indicated		
Weighting	Α	С		Z		
12.	.4 dB UR	16.4 dB	UR 21	.9 dB	UR	
Uncertainty of the electrica	l self generated nois	se ±	0.12	dB		
The reported expanded un-	certainty is based or	n a standard uncert	ainty multiplie	d by a cov	erage factor k=	2. providing
a coverage probability of a	· · · · · · · · · · · · · · · · · · ·		5			
UKAS requirements.		and the second				
For the test of the frequence	v weightings as per	paragraph 12, of IE	EC 61672-3:20	006 the ac	tual microphone	e free field
response was used.	,	Less South Control of the Control of	anaont was partilled the	www.commista.com		
The acoustical frequency to	ests of a frequency	weighting as per pa	ragraph 11 of	IFC 6167	2-3·2006 were o	carried out
using an electrostatic actua				010/1	_ 3.2300 7016 0	ou out
		END				
Calibrated by: A Pate		LIND				R 1
Additional Comments	"					IX I





Date of Issue: 26 October 2018

Issued by:

ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Telephone 01908 642846 Fax 01908 642814

E-Mail: info@noise-and-vibration.co.uk Web: www.noise-and-vibration.co.uk

Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Certificate Number: UCRT18/2082

Page	1	of	2	Pages			
Approved Signatory							
	Thland						
J. Harriman							

Customer ANV Measurement Systems

Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL

Order No. ANV MS HIRE

Description Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification Instrument Serial No. / Version Manufacturer Type Sound Level Meter NL-52 00976221 Rion Rion Firmware 1.9 Rion Pre Amplifier NH-25 76338 UC-59 Microphone 12154 Rion NC-74 Calibrator 34536109 Rion

Calibrator adaptor type if applicable NC-74-002

Performance Class 1

Test Procedure TP 2.SLM 61672-3 TPS-49

Procedures from IEC 61672-3:2006 were used to perform the periodic tests.

Type Approved to IEC 61672-1:2002 YES Approval Number 21.21 / 13.02

If YES above there is public evidence that the SLM has successfully completed the

applicable pattern evaluation tests of IEC 61672-2:2003

Date Received 25 October 2018 ANV Job No. UKAS18/10671

Date Calibrated 26 October 2018

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. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	Dated	Certificate No.	Laboratory
	29 November 2017	UCRT17/2061	0653

None

Certificate Number UCRT18/2082

UKAS Accredited Calibration Laboratory No. 0653 Page 2

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Sound Level Meter Instru			just the s	ound lev	els inc	licated.		
SLM instruction manual title			52					
SLM instruction manual ref		11-03						
SLM instruction manual sou	ırce	Manufacture	r					
Internet download date if ap	plicable	N/A						
Case corrections available	•	Yes						
Uncertainties of case correct	ctions	Yes						
Source of case data		Manufacture	r					
Wind screen corrections av	ailable	Yes						
Uncertainties of wind scree	n corrections	Yes						
Source of wind screen data		Manufacture	r					
Mic pressure to free field co	orrections	Yes						
Uncertainties of Mic to F.F.	corrections	Yes						
Source of Mic to F.F. correct	ctions	Manufacture	r					
Total expanded uncertaintie	es within the require	ements of IEC 6167	2-1:2002	Yes				
Specified or equivalent Cali	brator	Specified						
Customer or Lab Calibrator		Lab Calibrato	r					
Calibrator adaptor type if ap	plicable	NC-74-002						
Calibrator cal. date		03 October 20	18					
Calibrator cert. number		UCRT18/201	0					
Calibrator cal cert issued by	I	0653						
Calibrator SPL @ STP		94.01	dB C	alihration i	referen	ce sound pre	esure level	
Calibrator frequency		1001.98	_	alibration (•	23301C ICVCI	
Reference level range		25 - 130	dB	alibration	CHECK I	requericy		
					<u> </u>			_
Accessories used or correct	•			e & Wind				
Note - if a pre-amp extension	on cable is listed th	en it was used betw	een the S	SLIVI and tr	ne pre-	amp.		
Environmental conditions d	•	Start		nd			_	
	Temperature	20.82		1.38	±	0.40 °C		
<u> </u>	lumidity	47.2		3.1	±	3.00 %RF	<u>1 </u>	
<u> </u>	Ambient Pressure	100.02	10	0.03	±	0.03 kPa		
Response to associated Ca	llibrator at the envir	ronmental condition	s above.					
Initial indicated level	94.1			cated leve	П	94.0	dB	
The uncertainty of the asso					1	0.10	dB	
Self Generated Noise						00		
Microphone installed (if req				N/A	dB	A Weighting		
Uncertainty of the micropho	-	,		N/A N/A	dВ	T weighting		
			•			_		
Microphone replaced with e			Under Ra	inge indica	ated			
Weighting	A LIB LIB	C	Lub	04.4	<u> </u>	Tub		
10.5		15.0 dB	UR	21.1	dB	UR		
Uncertainty of the electrical				.12	dB	_		
The reported expanded und								l
a coverage probability of ap	proximately 95%.	The uncertainty eva	aluation h	as been ca	arried o	out in accord	ance with	
UKAS requirements.								
For the test of the frequence	y weightings as pe	r paragraph 12. of I	EC 61672	-3:2006 th	ne actu	al microphor	e free field	
response was used.								
The acoustical frequency te	ests of a frequency	weighting as per pa	ragraph 1	11 of IEC 6	31672-	3:2006 were	carried out	
using an electrostatic actua			- •					
		END						
Calibrated by: A Pate	 I	END					R	1