Appendix 11.2

Calibration Certificates of Noise Instruments

Calibration Certificate

Certificate Number 2020010471
Customer:
Environmental Measurement
Unit 12 Tallaght Business Centre
Whitestown Business Park
Dublin, 24, Ireland

Model Number	LxT SE	***Procedure Number***	D0001.8378		
Serial Number	0006258	***Technician***	Ron Harris		
Test Results	**Pass**	***Calibration Date***	17 Sep 2020		
Initial Condition	As Manufactured	***Calibration Due***			
Description	Sound Expert LxT Class 1 Sound Level Meter Firmware Revision: 2.404	***Temperature***	23.81	°C	± 0.25 °C
		Humidity	50.7	%RH	± 2.0 %RH
		Static Pressure	86.67	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1L S/N 069983 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 23.6 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1
IEC 61260:2001 Class 1	ANSI S1.11 (R2009) Class 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (**k=2**) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

LARSON DAVIS - A PCB PIEZOTRONICS DIV.
1681 West 820 North
Provo, UT 84601, United States
716-684-0001

ilac-MRA A2LA ACCREDITED Cert. #3822.01

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D0001.8407 Rev E

Calibration Certificate

Certificate Number 2020010533
Customer:
Environmental Measurement
Unit 12 Tallaght Business Centre
Whitestown Business Park
Dublin, 24, Ireland

Model Number	LxT SE	***Procedure Number***	D0001.8378		
Serial Number	0006260	***Technician***	Ron Harris		
Test Results	**Pass**	***Calibration Date***	21 Sep 2020		
Initial Condition	As Manufactured	***Calibration Due***			
Description	Sound Expert LxT Class 1 Sound Level Meter Firmware Revision: 2.404	***Temperature***	23.12	°C	± 0.25 °C
		Humidity	53	%RH	± 2.0 %RH
		Static Pressure	86.4	kPa	± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1L S/N 069997 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 23.6 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1
IEC 61260:2001 Class 1	ANSI S1.11 (R2009) Class 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Correction data from Larson Davis LxT Manual for SoundTrack LxT & SoundExpert Lxt, I770.01 Rev O Supporting Firmware Version 4.0.5, 2019-09-10

Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

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Calibration Certificate

Certificate Number 2020010535
Customer:
Environmental Measurement
Unit 12 Tallaght Business Centre
Whitestown Business Park
Dublin, 24, Ireland

Model Number	LxT SE	***Procedure Number***	D0001.8378
Serial Number	0006262	***Technician***	Ron Harris
Test Results	Pass	***Calibration Date***	21 Sep 2020
Initial Condition	As Manufactured	***Calibration Due***	
Description	Sound Expert LxT Class 1 Sound Level Meter Firmware Revision: 2.404	***Temperature***	23.41 °C ± 0.25 °C
		Humidity	51.6 %RH ± 2.0 %RH
		Static Pressure	86.43 kPa ± 0.13 kPa

Evaluation Method Tested electrically using Larson Davis PRMLxT1L S/N 069999 and a 12.0 pF capacitor to simulate microphone capacitance. Data reported in dB re 20 µPa assuming a microphone sensitivity of 23.6 mV/Pa.

Compliance Standards Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8384:

IEC 60651:2001 Type 1	ANSI S1.4-2014 Class 1
IEC 60804:2000 Type 1	ANSI S1.4 (R2006) Type 1
IEC 61252:2002	ANSI S1.25 (R2007)
IEC 61672:2013 Class 1	ANSI S1.43 (R2007) Type 1
IEC 61260:2001 Class 1	ANSI S1.11 (R2009) Class 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (**k=2**) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Calibration Check Frequency: 1000 Hz; Reference Sound Pressure Level: 114 dB re 20 µPa

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