

# Certificate of Calibration

Issued by University of Salford (Acoustics Calibration Laboratory)  
UKAS ACCREDITED CALIBRATION LABORATORY NO. 0801

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## APPROVED SIGNATORIES

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University of  
**Salford**  
MANCHESTER

Certificate Number: 04322/1

Date of Issue: 25 June 2019

## VERIFICATION OF A TYPE 1 SOUND LEVEL METER to BS7580 Part 1

FOR:	noise.co.uk Ltd The Hay Barn Newnham Grounds Kings Newnham Lane Bretford Warks CV23 0JU
FOR THE ATTENTION OF:	Samantha Hargreaves
CALIBRATION DATE:	25/06/2019
TEST PROCEDURE:	CTP08 (Laboratory Manual)

<b>Sound Level Meter</b>					
Manu:	Norsonic	Model:	140	Serial No:	1405560
<b>Microphone</b>					
Manu:	Norsonic	Model:	1225	Serial No:	122751
<b>Preamp</b>					
Manu:	Norsonic	Model:	1209	Serial No:	15472
<b>Associated Calibrator</b>					
Manu:	Norsonic	Model:	1251	Serial No:	33824      Adaptor: 1443

Test Engineer  
(initial):

GP

Name: Gary Phillips

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## SET-UP INFORMATION

The instrument version was 2.1.670. The reference range, reference SPL, primary indicator range, pulse range and linearity range as specified by the manufacturer have been used. The instrument was adjusted to read 114.2 dB (A) in response to the associated calibrator. This reading was obtained from the calibration certificate of the calibrator, 04280/1 and information in the manufacturer's instruction manual, with the following instrument settings: Input sign: Type: Standard, Random: Off, Windscr: Off, Preamp: On. The instrument was calibrated without a windshield. Consult manufacturer's instructions if using a windshield.

## MEASUREMENTS

The levels of self-generated noise were:

<b>A:</b>	<b>7.3 dB</b>
<b>C:</b>	<b>14.1 dB</b>
<b>Z normal:</b>	<b>21.0 dB</b>
<b>Z wide:</b>	<b>46.7 dB</b>

At the end of the tests the indication of the sound level meter in response to the associated sound calibrator was 114.2 dB (A) which corresponds to the following level at 101.325 kPa:

**Sound Pressure Level                      114.2 dB (A)**

**This reading should be used henceforth to set up the sound level meter for field use.**

THE SOUND LEVEL METER WAS VERIFIED ACCORDING TO THE PROCEDURE GIVEN IN BS7580: Part 1 1997 WITH THE FOLLOWING EXCEPTIONS:

The microphone corrections applied as specified in BS 7580: Part 1: 1997 were obtained from a frequency response measurement by this Laboratory using the electrostatic actuator method. The response in isolation is not covered by our UKAS accreditation.

A stricter test than that specified in 5.5.10 and 5.5.11 of BS 7580 has been used by not applying the low level signal.

## STATEMENT OF RESULT:

**THE SOUND LEVEL METER CONFORMS TO THE TYPE 1 REQUIREMENTS OF BS7580: PART1 1997.**

Instruments used in the verification procedure were traceable to National Standards. The method of acoustic calibration employed a standard sound pressure calibrator for the 1 kHz test whilst the tests at 125 Hz and 8 kHz were performed by the electrostatic actuator method. The uncertainty of the Laboratory's 1 kHz calibrator was  $\pm 0.08$  dB. The uncertainty of the standard calibrator is not included in the applied tolerances. It is assumed that the sound level meter was manufactured in accordance with BSEN60651: 1994 Type 1, and BSEN60804: 1994 Type 1.

*The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements. All measurement results are retained at the acoustic calibration laboratory for at least four years.*

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