Noise measurement survey 16th June 2015: The Hub.

The table below shows the results of the noise measurements taken whilst undertaking a series of acoustic tests. Class 1 sound level meters were used for these tests and the microphones were calibrated before and after the survey in order to ensure a consistent and acceptable level of accuracy. No significant calibration drift (±0.5 dB) was noted. The results shown in the table are LAeq (please see below table for a definition of LAeq) values for the duration of the particular test unless stated in the table (i.e. all except the balloon burst for which LAFMax values have been reported – please see definition of LAFMax below the table).

Measurements taken prior to the tests recorded ambient noise levels of around 30dB LAeq in the studio. During the acoustic tests, noise in the external area at the microphone was elevated to 48 dBA as produced by a noise mask white noise generator to emulate an ambient average noise level in an open plan office. The conversation held inside the Hub was unintelligible outside at the measurement position as it was barely audible. The LAeq was elevated during this test by a fraction of a decibel with levels just above 48 being measured. Reductions on the other tests varied from around 22 dBA to 27 dBA. Further reductions would have been possible if all openings and contacts were fully sealed e.g. around the base and door and if the roof vent was adapted.

Test	Description	External Measurement	Internal Measurement
1	Conversation Outside	56	36.5
2	Conversation Inside	48.3	59
3	Conversation Inside with boom inside	48.4	60.3
4	Balloon burst outside	100.3 LAFMax	77.6 LAFMax
5	Balloon burst inside	81.8 LAFMax	105.9 LAFMax
6	Balloon burst inside with boom inside	75.3 LAFMax	102.8 LAFMax
7	Hand clap outside	77.2	52.4
8	Hand clap inside	59.2	76.8
9	Hand clap inside with boom inside	53.8	75.7
10	Cornet outside	87.3	65.4
11	Cornet inside	67.3	91.3
12	Cornet inside with boom inside	65.6	89.2

Please Note:

LAeq: The Equivalent continuous sound level. This is typically a steady noise level which represents the same energy over time as the actual fluctuating sound.

LAFmax: This is the maximum A weighted noise level recorded over the measurement period with fast time constant.