

DESIGN NOTE

DOCUMENT CONTROL			
DOCUMENT TITLE	ANCILLARY ACOUSTIC TESTING	REVISION	R00
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EXECUTIVE SUMMARY

- 1.1. This document summarises the results of the noise breakout survey carried out on Wednesday 3rd April from the Coop Live arena’s ancillary spaces along with any commentary observed on the rooms acoustic integrity.
- 1.2. Testing has been carried out using an overlay production audio system including subwoofers in each tested ancillary space.
- 1.3. Noise breakout has been assessed at the arena’s external façade as well as at the nearest residential receiver on Stuart Street.
- 1.4. The following ancillary spaces have been tested:
- L00 Decibel Club
 - L00 Record Room
 - L00 Atrium
 - L01 Backstage Bar
- 1.5. The following internal levels were targeted in the tested rooms:
- Decibel Club & Record Room: 95 dB(A); 10dB low frequency contour.
 - Backstage Bar: 102 dB(A); 10 dB low frequency contour.
 - Atrium: 100 dB(A); 10dB low frequency contour.
- 1.6. Although music levels were inaudible at the nearest residential building for the 4 considered source rooms, music was clearly audible at the perimeter of the building for the Atrium and

Backstage bar due to weaknesses in the acoustic integrity from poorly sealed or open doors.

TESTING RESULTS

Room tested	Test start (hh:mm)	Internal Measured Level & Duration (dB L _{Aeq})	Internal Measured Level & Duration (dB L _{63Hz})	Notes (source room)	Notes (arena perimeter)	Notes (residential)
Backstage Bar	23:46	100.7 (13min)	110.4 (13min)	Mic placed at rear of dancefloor (6.5m from source and off axis from source, thus reduced left/right summation). South door keeps swinging open. East lobby doors unable to be closed.	Low frequency music noise audible through entrance G (internal door set of exit lobby impeded from closing). Traffic noise dominant.	Traffic noise dominant. Music noise inaudible.
Record Room	00:13	95.1 (12min)	106.7 (12min)	Mic placed 8m from source along room centre line (off centre to the source thus reduced left/right summation). None of the entrance doors to the space could be sealed close.	Music noise inaudible. Traffic noise and passing trams dominant.	Music noise inaudible. Traffic noise dominant.
Atrium	00:32	98.1 (17min)	110.0 (17min)	Mic placed 10m from source and significantly off centre so reduced summation. Source levels reduced slightly during testing due to distortion. Large gap under entrance doors (level M0).	Arena south side: music noise inaudible, plant noise dominant, occasional tram audible. From entrance D: music noise audible through entrance doors, plant noise audible.	Music noise inaudible. Traffic noise dominant.
Decibel Club	00:55	92.8 (13min)	106.9 (13min)	Mic placed 10m from source on-axis and calibrated at 63Hz, which is most critical to breakout assessment.	Music noise inaudible.	Music noise inaudible.

PHOTOS



Figure 1 Backstage Bar south doors swinging back open



Figure 2 Un-closable Record Room doors



Figure 3 Typical measurement setup



Figure 4 Gap under Atrium entrance doors (level M0)

BACKSTAGE BAR

	L_{Aeq}, 1min	L_{eq} 63Hz, 1 min
23:46	100.2	110.8
23:47	101.1	110.3
23:48	101.5	110.2
23:49	101.7	110.2
23:50	102	110.5
23:51	96.7	109.8
23:52	97.9	110.9
23:53	99.3	109.3
23:54	101.2	110.5
23:55	101.7	110.6
23:56	102	110.5
23:57	102	110.8
23:58	96.7	110

RECORD ROOM

	L_{Aeq}, 1min	L_{eq} 63Hz, 1 min
00:13	92	104.7
00:14	95.6	106.8
00:15	95.8	106.8
00:16	96.5	107.1
00:17	96.2	107.3
00:18	91.8	105.6
00:19	93.1	107.3
00:20	93.5	105.7
00:21	95.4	106.5
00:22	95.8	106.6
00:23	96.5	107.2
00:24	96	107.6

LOO ATRIUM

	L_{Aeq}, 1min	L_{eq} 63Hz, 1 min
00:32	94.8	106.4
00:33	99	113.3
00:34	98.5	109.2
00:35	97.7	109
00:36	98.7	109
00:37	99.7	109.5
00:38	99.1	109.8
00:39	94.3	107.9
00:40	96.6	111.3
00:41	97.4	109.1
00:42	99.1	110.1
00:43	99.4	110.1
00:44	100	110.3
00:45	99.6	110.8
00:46	94.7	108.9
00:47	96.4	111.3
00:48	97.5	109.3

DECIBEL CLUB

	L_{Aeq}, 1min	L_{eq} 63Hz, 1 min
00:55	96.9	113.2
00:56	93.8	108.4
00:57	92.1	105.3
00:58	92.6	105.3
00:59	92.4	105.1
01:00	93.5	105.6
01:01	89.1	105.4
01:02	89.1	105.1
01:03	90	104.3
01:04	92.2	105.4
01:05	92.7	105.1
01:06	92.4	105.1
01:07	93	105.4



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