

Case Study: Radio 1's Live Lounge kicks off at New Broadcasting House

BBC Radios 1 and 1Xtra move locate to new home, incorporating the purpose-built Live Lounge studio

Having successfully provided acoustic consultancy services supporting the construction of New Broadcasting House, AAD were invited back by the BBC to assist in the final fit-out of what was to be the new home for BBC Radios 1 and 1Xtra. The complete top floor is given over to these popular stations, and includes six 'self-operating' broadcast studios for both Radio 1 and 1Xtra programmes, and in the centre of these, the Live Lounge, a dedicated area for live performances by bands and solo artists.



Radio 1's Live Lounge, airborne sound insulation well over Dw 70 dB

One of the major challenges for this assignment was the considerable space restriction on the top floor; because the slab-to-slab height there is lower than other floors, acoustic design and fit-out were significant challenges, particularly with regard to building services systems. Directly above this floor is a densely populated plant room, housing significantly large water pumps. Furthermore, because Radio 1 had chosen to occupy the centre section of the floor space, there was a structural loading limitation requiring considerable design ingenuity for the new studios. Being Radio 1, the station can obviously make quite a lot of noise, so the acoustic performance requirements were more stringent than in any of the other studios in the Broadcasting House building.

The 'Live Lounge' is a session that occurs mid-morning, 2-3 times a week and this accommodation is also used for ad hoc performances. Before this space became available, live performances were split between Maida Vale and the old Live Lounge, which was just a very small room between the studios in Radio 1's Yalding House building.



Can we have a broadcast studio to go here, please?

The Live Lounge accommodation is located directly in the centre of the floor-plate and a building column comes right up through the middle of it; this means the column had to be acoustically isolated. AAD designed and specified the construction for all six broadcast studios and the Live Lounge, which are all fully independent 'floating box' constructions on isolation mounts, constructed from relatively lightweight materials. Due to considerable weight, concrete and masonry were not suitable and so the studio accommodation comprises multi-layered build-ups of dense board materials.

Studios have dedicated air-conditioning and ventilation systems, but because the Live Lounge was tight on space, there was no option other than to reuse the existing chilled beam type system. All chilled beams from the original use were disconnected and the Live Lounge studio constructed; the beams were then reconnected inside the new studio, and were quiet enough to make them suitable for the space. This all then had to be plumbed in, necessitating a fair amount of isolation joints that had to be carefully detailed to ensure that acoustic isolation was maintained.

A further challenge was that the client required large viewing windows between the Live Lounge and the adjacent studios; AAD were able to design a scheme using huge window sizes to achieve sound insulation between the Live Lounge and the studios, and between the studios themselves, of well over Dw 70 dB.

Radio 1's accommodation includes a handful of edit suites and four 'plugger' rooms, where record company personnel attend to plug songs to the station; these are small meeting rooms that accommodate three people, and require effective sound insulation. Also part of the Radio 1 suite is a 'Visualisation' room, primarily used for producing high quality webcasts of interviews, which also required very effective sound insulation.



New Broadcasting House in the centre of London

Immediately below the Radio 1 and the Live Lounge is BBC office space, making it even more important that the sound was sufficiently insulated. AAD's consultant on this project, Phil Mansfield, was pleased to report that: "Even though a full band practice was going on in the Live Lounge, it was not audible from the floor below!"

Sound Insulation between studios
Service noise levels:

>D_w 70dB

Broadcast Studios <NR20

Live Lounge <NR25